

# **Alaska's Nonpoint Source Water Pollution Control Strategy**



**June 24, 2013**

**DRAFT**

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## **Introduction**

### **A. Purpose of the Strategy**

Alaska's *Nonpoint Source Water Pollution Control Strategy* is a statewide plan for protecting Alaska's natural resources from polluted runoff also known as nonpoint pollution. The actions contained in the strategy are a collaborative effort of a wide range of entities. The strategy identifies existing programs; establishes goals, objectives and timelines for completion of tasks; and outlines methods for determining success.

Alaskans depend on clean water. Clean water is critical to our way of life and our health, whether it is used for subsistence, recreational, commercial, domestic or industrial activities. Alaska's generally pristine waters are a distinguishing characteristic that helps make Alaska unique among the states. Maintaining good water quality can only be achieved when all sources of pollution in a watershed are taken into consideration and resources are focused on the highest priorities so that people work together to prevent pollution and achieve clean water goals. Hence, maintaining healthy watersheds is a key element of Alaska's *Nonpoint Source Water Pollution Control Strategy*.

Nonpoint source water pollution is water pollution that does not come from an end of pipe discharge. It is the leading cause of water pollution in Alaska.

### **B. Nonpoint Source Pollution in Alaska**

Alaska is a relatively undeveloped state, with most of our watersheds currently in pristine condition. However, extensive development is occurring in some areas, particularly in the five major urban hubs (Anchorage, Fairbanks, Juneau, Kenai/Soldotna, and Palmer/Wasilla); and increasing resource extraction is occurring in some areas. In populated areas, many waterbodies, including important fish streams, have been degraded and are in need of restoration. The emphasis of our nonpoint source pollution strategy is a combination of protecting existing unpolluted, at-risk waters while addressing impacted areas. The strategy seeks to improve the capacity of local governments to manage nonpoint source pollution combined with the following state prevention, restoration, and stewardship efforts. Management plans will be developed and implemented in high priority watersheds where water quality is either impaired or threatened. Restoration strategies for polluted waters will target the sources of pollution and include measures to control that pollution to prevent future degradation. Restoration activities will be designed to achieve a water quality classification appropriate to the specific waterbody.

### **1. Organization of the Strategy**

The Strategy is a roadmap for how Alaska will meet the challenge of protecting water resources and public health from nonpoint sources of pollution over the next five years. The document is arranged into nine sections. The first section describes the purpose of the document, funding sources, and federal regulatory requirements. The first section also describes how the state incorporates the Environmental Protection Agency's (EPA) key

elements of a dynamic and effective nonpoint source management program and includes the Nonpoint Source Pollution Action Plan with Objectives and Tasks for the next five years. Sections two through eight delve into the state's strategy to control pollution from primary sources. Identified Management Measures and Indicators for each pollution source are provided to establish measurable outcomes. Applicable regulatory controls for each pollution source are summarized along with key partnerships. Also included in each section is a set of goals for reduction of nonpoint source pollution from each specific pollution source. The Action Plan tables are the basis of the state's strategy to control nonpoint source water pollution from each pollution source. In addition, Appendix A focuses on actions to protect Alaska's healthy waters. Appendix B provides the link to the list of high priority waters and tasks that will be the focus of the nonpoint source pollution control actions in Alaska during the next five years (2014-2018).

**Comment [JC1]:** This appendix needs to include the state's approach, goals, tasks, management measures and indicators for protecting Alaskan pristine waters and waters at risk. Some of this information (such as short term goals and tasks for the next 5 years) could be included in Appendix B.

#### **Pollution Sources with an Action Plan & Objectives**

- Section 2.0 Urban and Community Development
- Section 3.0 Forest Practices
- Section 4.0 Harbors and Marinas
- Section 5.0 Mining
- Section 6.0 Hydromodification
- Section 7.0 Agriculture
- Section 8.0 Roads, Highways and Bridges

The Appendices to the Strategy provide background and reference material on a number of subjects including the Department of Environmental Conservation (DEC), Identification of Priority Waters for Protection and Actions Anticipated ([Appendix A](#)), High Priority Waters and Tasks for Reporting in 2014-2018 ([Appendix B](#)), Information Management Systems ([Appendix C](#)), Agencies and Organizations ([Appendix D](#)), the Alaska Clean Water Action (ACWA) Process ([Appendix E](#)), and Local Ordinances on [Urban Nonpoint Source Pollution \(Appendix F\)](#) Roads, Highways and Bridges.

## **2. Funding Sources**

Communities and local organizations know the problems in their area, but they are often unable to implement such projects because of a lack of knowledge about how to fix problems, and how to provide financial support. With limited funds available and limited discretionary spending, federal, state, and local government programs are rarely able to provide a single primary source of funding. Combined together, these funding sources can result in environmental progress.

#### **Federal Funding Sources**

The EPA, Office of Water has developed the Catalog of Federal Funding Sources for Watershed Protection to inform watershed partners of federal monies that might be available to fund a variety of watershed protection projects. This web site searchable database EPA's Catalog of Federal Funding Sources for Watershed Protection of financial assistance sources and can be found at: <http://cfpub.epa.gov/fedfund/>

### **Performance Partnership Grant**

The primary source of state funding for nonpoint source activities and projects is an annual *Performance Partnership Grant (PPG)* administered by EPA that combines funding from a variety of sources authorized in the Clean Water Act (CWA). These include funding from Section 319 Nonpoint Source Control, CWA Section 106 Water Pollution Control, CWA Section 106 Groundwater Protection, and Section 104(b)(3) grants. The Performance Partnership Grant funds require approximately 40% match from non-federal sources, which comes from both state funding and from local sources. The scope of work in the Performance Partnership Grant (PPG) is negotiated annually with EPA and documented in a work plan that describes tasks to be accomplished. Overall goals and high priority actions are documented in the annual *Performance Partnership Agreement (PPA)*.

Revisions to EPA's 319 grant guidance in 2013 ~~requires requests~~ that 50% of 319 funding be allocated toward directly addressing impaired waters under the guidance of a restoration plan. EPA's grant guidance provides for flexibility to use funds for protection provided the state strategy incorporates protection measures. In Alaska, because so many waters are healthy, this strategy invests in protection measures to maintain healthy waters. The strategy also focuses on ~~targeted monitoring to evaluate waters~~ in developing areas. Funding from the PPG used to implement the Nonpoint Source Pollution Control Program is allocated into four categories:

1. DEC water quality programs;
2. Collaborative projects with the Department of Fish and Game (DFG), Department of Natural Resources (DNR), and the University of Alaska;
3. Grants to communities for local watershed protection and restoration projects;
4. Contracts for highly technical projects.

These four categories help to ensure impaired waters are being restored and healthy waters are being protected.

### **Municipal Loans for Water and Sanitation Projects**

DEC provides loans and engineering support to municipalities for drinking water, wastewater, solid waste, and nonpoint source projects that can enhance/protect water quality. —Local match requirements depend on a community's population and can include federal funds.

### **Alaska Clean Water Fund (Revolving Loan Fund)**

The Alaska Clean Water Fund and the Alaska Drinking Water Fund provide loans and engineering support for drinking water, wastewater, solid waste and nonpoint source projects that can enhance/protect water quality such as waterbody restoration and recovery. These loan programs are designed for cities, boroughs and qualified private utilities. Primary services include:

**Comment [JC2]:** *The guidance actually states:* States must use at least 50% of the annual appropriation of § 319 funds (watershed project funds) to implement watershed projects guided by WBPs.... These guidelines further require that watershed project funds go toward restoring impaired waters through the implementation of WBPs or acceptable alternative plans. Activities necessary to implement WBPs or acceptable alternative plans for watersheds containing one or more impaired waters are considered restoration activities.

**Comment [JC3]:** Please include all of the factors required in order to exercise this flexibility "Under these guidelines, EPA requires that watershed project funds go toward restoring impaired waters through the implementation of WBPs or acceptable alternative plans. However, where a state has an updated NPS management program that identifies *protection of unimpaired/high quality waters as a priority* and describes its process for identifying such waters, there is flexibility to use a limited amount of watershed project funds for activities to protect identified waters following consultation with EPA through § 319 grant work plan negotiations. The proportion of § 319 watershed project funds allocated to protecting unimpaired/high quality waters could vary depending on the relative priority of restoration and protection activities in the state's NPS management program and the array of projects ready for § 319 funding and implementation in that particular year. States may also use NPS program funds to protect unimpaired/high quality waters." (page 16 in the guidance). Using less than 50% of 319 funding towards restoration will need a 319 waiver.

**Comment [JC4]:** Note that using 319 funding for monitoring waters to determine impairment may need a 319 waiver.

- Providing low-interest loans up to 20 years in duration for projects or eligible portions of projects.
- Providing refinancing of eligible projects.
- Assigning a project engineer to assist with plans, designs, construction and regulations.
- Assuring timely reimbursement for construction expenditures.
- Ensuring appropriate and effective use of loan funds.

### **ACWA Grant Funds**

In Alaska, multiple federal grant funds are administered through the ACWA initiative. Historically, funding sources for ACWA grants has included the CWA Section 319 grant funds, Environmental Health's Source Water Protection funds, Beach Environmental Assessment and Coastal Health (BEACH) Act funds, and DFG's Sustainable Salmon grant funds. —Recent ACWA funding has been limited to Section 319 grant and BEACH grant funds. Distributing funds through the ACWA process is one of DEC's primary mechanisms for engaging additional resources to the program. The ACWA process is also used to prioritize waters for monitoring, restoration and protection action with state and federal funds.

## **3. Alaska's Implementation of Strategy Elements**

Alaska intends to continue to employ a mix of regulatory and non-regulatory tools to ensure implementation of nonpoint source goals, action plans, objectives and tasks. The overall success of this strategy could be measured by the number or extent of waters documented to meet one or more designated uses. Conversely, an increase in the number or extent of impaired waters resulting from non-point source pollution should result in revisiting whether additional actions are needed.

### **C. Statewide Incorporation of EPA's Key Elements**

#### **1. The state program contains explicit short and long-term goals, objectives, and strategies to restore and protect surface and ground water, as appropriate.**

Alaska's Strategy to ~~restoreurb watershednonpoint source pollution~~ and protect healthy waters ~~from NPS pollution~~ is implemented through short and long term goals, objectives and tasks for each of seven pollution sources ~~and healthy watersheds~~. A completion target date and measurement element are included for ~~each high priority task~~ in Appendix B.

#### **2. The state strengthens its working partnerships and linkages with appropriate State, Tribal, regional, and local entities (including conservation districts), private sector groups, citizens groups, and federal agencies.**

Improving the coordination and collaboration of water quality initiatives between agencies and organizations is an important part of the Strategy. Reaching consensus on the priority waters that require prevention and restoration will assure limited resources will be used most effectively. The DEC leads coordination efforts to provide consistency in meeting the goals of the Strategy, but it is ultimately the responsibility of everyone to

**Comment [JC5]:** We disagree that success of the program could be measured by the number of waters meeting designated uses or the failure by an increase in impaired waters. A robust monitoring program with increased monitoring may find more impairments, and it would still be a successful program. By using the size of the impaired waters list as a measure of success, it would provide an incentive for not finding or trying to find impairments.

How will success be measured for protection?

- Number of miles of high-quality waters protected
- Long-term protection of X acres in priority watersheds by 20XX.
- No waterbodies or reaches in high quality watersheds will be moved to the nonattainment lists due to NPS causes or pollution.
- Specific load reduction or maintenance goals (X lbs. of P per year) in protection oriented plans covering high value waters.
- Number or percentage of watersheds that hit their protection oriented goals each year.
- Improve trends in water quality of waterbodies that are threatened but not yet impaired so that the waterbodies remain off the nonattainment list.
- Number and type of BMPs implemented at critical source areas (demonstrating effective targeting).
- Stable or improving water quality/trophic status in lakes.
- Stable or improving water quality (biocriteria, DO, bacteria) in streams.
- Green infrastructure installed within watersheds (e.g., track the number of projects or square footage converted to green infrastructure).

**Comment [JC6]:** Where are goals, objectives and strategies for groundwater included?

**Comment [JC7]:** Include "watershed protection/healthy watersheds" to the Table in Appendix B or add this kind of information to Appendix A.

work together to meet water quality needs in Alaska. A detailed description of state agencies, local organizations and a list of federal agencies that are important for partnerships to control nonpoint source pollution are found in Appendix D.

State resource agencies participate in ACWA, a statewide water quality planning process to unite state efforts to protect and restore the quality of Alaska's water resources. The leads in this process are the DEC, Department of Fish and Game (DFG), and Department of Natural Resources (DNR). Through an interagency forum this process identifies Alaskan waters that are polluted or vulnerable to pollution; identifies, prioritizes and schedules restoration or protection actions; manages and shares information on water quality, water quantity and aquatic habitat; and describes how Alaska will implement best available technology and management practices to prevent pollution.

**3. The state uses a combination of statewide programs and on-the-ground projects to achieve water quality benefits; efforts are well integrated with other relevant state and federal programs.**

DEC uses a statewide approach to protect and restore watersheds working within DEC and with other partners. Alaska uses the ACWA process, described below, to collaborate with other divisions within DEC and other state agencies. DEC also collaborates with federal agencies to protect high priority waters and address impacts to waters on federal lands.

**ACWA Watershed Protection Approach**

Three departments of the state are involved in assuring Alaska's waters are clean, healthy and available for various uses. The ACWA program brings the State resource agencies, DEC, DFG, and DNR, together to deal with waters in a coordinated, cooperative, and balanced approach assuring state resources are used on the highest priorities. The Department of Fish and Game is concerned about water as fish and wildlife habitat; the Department of Environmental Conservation is responsible for ensuring that state water quality standards are met, to ensure many water uses; and the Department of Natural Resources is in charge of water quantity and administers water rights and withdrawals. ACWA brings these agencies together to assess all aspects of a waterbody, and make joint decisions on assessment, protection and restoration.

ACWA agencies implement a consolidated approach for a complete assessment of the health and status of any particular waterbody. The ACWA process has three major components: 1) Stewardship, 2) Protection and restoration of waters at risk, and 3) Recovery of polluted waters. This process identifies the highest priority water quality and quantity needs to prevent degradation of healthy waters and restore waters that are polluted. This process identifies where citizen, organization and agency efforts should be focused, how best to take action, which agency is responsible for the action, and why water resource protection is important to all Alaskans.

**Comment [JC8]:** You just described ACWA and the WQ monitoring strategy which DEC leads. This section needs to do a better job in explaining how the other state programs integrate NPS. May want to briefly list programs and include detailed descriptions of the aspects of each program that support the goals of this NPS strategy—part of which is already contained in Appendix D and should be referenced in this section. I recall your IR includes this information as well. See page 54 of the FY14 319 guidance on programs to include such as:

- Total Maximum Daily Loads (TMDLs);
- Clean Water State Revolving Fund (CWSRF);
- U.S. Department of Agriculture (USDA) farm bill conservation programs;
- state agricultural conservation;
- state nutrient framework or strategy
- source water protection;
- ground water;
- drinking water;
- clean lakes
- wetlands protection;
- national estuary program;
- coastal nonpoint pollution control program;
- pesticide management;
- climate change planning;
- forestry, both federal (U.S. Forest Service) and state;
- U.S. Army Corps of Engineers programs;
- Other natural resource and environmental management programs.



Beginning in March 2003, the ACWA partners pooled funding and resources to create a combined request for proposals. While each agency maintains their own funding, grantees only have to fill out one application to apply for state resource agency grants. Although multiple sources of funding have declined, the agencies remain committed to a joint priority setting process and collaborating on projects where possible.

Additional information on the ACWA process can be found in Appendix E. DEC also publishes information about the priority setting process and waterbody priorities on the publically available ACWA web site.

#### **Water Quality Monitoring & Assessment Strategy (June 2005)**

The DEC, Division of Water, *Water Quality Monitoring and Assessment Strategy* can be found at:

[http://dec.alaska.gov/water/wqsar/monitoring/DEC\\_monitoring\\_strategy\\_final\\_2005.pdf](http://dec.alaska.gov/water/wqsar/monitoring/DEC_monitoring_strategy_final_2005.pdf)

This monitoring strategy meets the federal expectations for state water quality stewardship activities enumerated in the CWA in a manner influenced by Alaska's unique needs and challenges. The strategy documents the steps DEC is taking to facilitate the development of information to assess the status and trends of Alaska's water resources and provide water quality information to serve as a basis for environmental and natural resource conditions. This monitoring strategy describes DEC's probabilistic monitoring program.

As a part of this Non-Point Strategy, DEC places a high priority on obtaining water quality information on waters potentially impacted. Appendix C describes the Water Information Systems DEC uses to collect, review and store information about Alaska's waters.

#### **4. The state program describes how resources will be allocated between (a) abating known water quality impairments from NPS pollution and (b) protecting threatened high quality waters from significant threats caused by present and future NPS impacts.**

Abatement of water quality impairments from nonpoint source pollution in Alaska is accomplished through a combination of water body protection plans, waterbody recovery plans and adopted Total Maximum Daily Load (TMDL) documents. Specific work plans to allocate resources to assessment, protection, or restoration are done on an annual basis. The negotiated PPA/PPG with the Environmental Protection Agency identifies resources committed to non-point source pollution.

##### **Abatement of Known Impairments**

##### **Waterbody Recovery Plan – Total Maximum Daily Load**

One of the first steps toward the abatement of nonpoint source pollution in an impaired waterbody is the development of the TMDL or Waterbody Recovery Plan. When

**Comment [JC9]:** Need to note that this strategy will be updated (and projected date and location of the updated strategy)

**Comment [JC10]:** This is a key component for flexibility to use more resources for protection. Need to be more specific AK's approach for setting priorities and aligning resources between the twin demands of remedying waters that the state has identified as impaired by NPS pollution and preventing new water quality problems from present and reasonably foreseeable future. See page 55-56. You describe the TMDL and NPDES programs instead of explaining the decision making process for resource distribution between restoration and protection. This is where the ACWA process would be included, as well as the annual PPA/PPG process, decisions on staffing and contract funding etc. Not sure how describing the TMDL program and the NPDES program addressed this component. Perhaps this information would be better to include under #3.

**Comment [JC11]:** What is the difference between waterbody recovery plan and TMDL? Are you still developing waterbody recovery plans or just combining both documents into the current TMDLs?

waterbodies are determined to be impaired (when they exceed state Water Quality Standards for a particular pollutant), they are added to the 303(d) (referring to section 303(d) of the CWA) list of impaired waterbodies which is submitted to the EPA every two years. It is incumbent upon the State and EPA to take the lead in working to restore waterbodies. Restoration is accomplished through the development and implementation of either a TMDL document or an alternative plan. While following different formats, both identify the source of and the means to reduce pollutants and the amount of pollutants that can be introduced to the waterbody while still allowing overall recovery to proceed. With this knowledge, parties who introduce pollutants are given an “allowance,” or “total maximum daily load” for that pollutant, and/or prescriptive actions called Best Management Practices (BMPs) that they must follow, to stay within that allowance. Under an alternative plan, an allowance is not necessarily given but often a range of BMPs are identified to reduce or control the nonpoint source pollution that is impairing the waterbody.

A TMDL or other controls such as an alternative plan ~~or NPDES permits~~ are required for a polluted waterbody to be removed from the 303(d) list however; a waterbody can also be removed if there are assurances that pollution controls are in place, or will be in place that result in attainment of Water Quality Standards. These assurances could include other pollution recovery plans such as a Waterbody Recovery Plan, Memorandum of Understanding (MOU), Record of Decision (ROD) or a similar type of hazardous substance clean-up approved by DEC's Contaminated Sites Program. These waters are shown in Category 4b of the Integrated Report. ~~There are also instances where there is no true plan but general assurances that controls are being implemented and only require some follow-up implementation or effectiveness monitoring (as opposed to in-stream monitoring.)~~

**Comment [JC12]:** TMDLs can still be required even if a NPDES permit is already in place.

The EPA is required, by court order, to complete at least two TMDLs in Alaska, each year until those waters on the Alaska's 303(d) list in 1992 have been addressed. TMDLs ~~and Waterbody Recovery Plans~~ developed by DEC, either directly through staff work or indirectly through contract or grant efforts, ~~must be are~~ approved by EPA to meet this requirement. EPA may also initiate work on TMDLs ~~or Waterbody Recovery Plans~~ directly, with their staff or contracted efforts.

**Comment [JC13]:** This level of detail is not needed and may be misleading. Better to reference EPA's guidance or Alaska's Integrated Report/listing methodology.

**Comment [JC14]:** Neither Jill nor Jayne could understand what you are saying here so we suggest deleting.

The following waters still need to be addressed under court order<sup>1</sup>: Crooked Creek Watershed; Goldstream Creek and Hood/Spenard lakes. Once the impairments from the waters subject to the court order have been addressed, resources dedicated to addressing TMDLs will be directed toward protecting healthy waters and reducing the extent of impaired waters and monitoring waters identified under Category 3 in the Integrated Report or through the ACWA process to determine impairment and progress towards meeting water quality standards.

<sup>1</sup> Based on the public notice draft 2012 Integrated Report

In developing ~~these~~ TMDL<sup>2</sup>s using 319 funding, DEC will ~~include~~consider (1) an identification of the total non-point source (NPS) existing loads and total load reductions necessary to meet water quality standards by source type; (2) a detailed identification of the causes and sources of NPS pollution by source type to be addressed in order to achieve the load reductions specified; an analysis of NPS management measures by source type expected to be implemented to achieve the necessary load reductions; ~~and~~ (4) a commitment to an adaptive management strategy to evaluate changes may be needed during implementation to achieve water quality goals. ~~Once the impairments from the waters subject to the court order have been addressed, resources dedicated to addressing TMDL's will be directed toward protecting healthy waters and reducing the extent of impaired waters.~~

#### **Prevention of Nonpoint Source Pollution from Known Discharges**

The Nonpoint Source Program in Alaska implements nonpoint source pollution requirements aimed at preventing and abating pollution from ~~unregulated~~ sources. DEC has programs to regulate pollution from stormwater, wastewater discharge facilities, and dredge and fill projects ~~on the DEC authorization~~.

DEC is engaged in three types of stormwater permit activities addressing various industrial sectors and activities common to their business processes and practices to prevent polluted runoff. Wastewater dischargers required to have a permit fall into two general categories: domestic (municipal and private waste treatment plants) and industrial (including log transfer and storage facilities, mining, oil & gas, seafood processing/hatcheries, utilities, transportation, and other miscellaneous types of industrial discharges). Dredge and fill projects are required to obtain a DEC Clean Water Act Section 401 Certification which provides "reasonable assurance" that a project will meet state water quality standards, and may require the implementation of stipulations such as Best Management Practices concerning the control of fill materials, erosion control, drainage control, and habitat protection.

5. **The state program identifies waters and watersheds impaired by NPS pollution as well as high priority unimpaired waters for protection. The state establishes a process to assign priority and to progressively address identified watersheds by conducting more detailed watershed assessments, developing watershed-based plans and implementing the plans.**

In 2013, approximately 135 waters were identified as a high priority by one or more of the resource agencies. Of these, almost one-third is in a protection category, while nearly half are in need of data. The majority of waters identified by any of the resource agencies as in need of restoration have a restoration plan in place. The lack of waterbody specific analytical data coupled with a large number of waters in need of protection, results in Alaska's Non-Point Source Program placing a high priority on data collection and implementing statewide programs that are designed to protect a wide range of waters. Therefore, data collection efforts and designing/implementing education programs that can be used statewide is a priority.

**Comment [JC15]:** Also could include factors used to determine the schedule for TMDLs listed in the IR.

In addition, DEC has identified several locations where working with the local community to reduce impacts from non-point source pollution is a priority. See Polluted or "impaired" waterbodies are identified in the biennial Integrated Water Quality Monitoring and Assessment Report (Integrated Report) submitted by DEC to the EPA.

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Alaska's Integrated Report is available at:

<http://dec.alaska.gov/water/wqsar/waterbody/integratedreport.htm>

The Integrated Report describes the process by which waterbodies are evaluated to determine if they attain water quality standards or are impaired (polluted). Part of this process includes classifying each waterbody according to five categories, depending on their health; determining which waterbodies need further action; scheduling when each impaired waterbody will be addressed; and then determining how waterbodies are removed from the impaired waterbody list. The report also lists those waters where additional information is needed to classify the water (i.e., impaired or healthy). DEC's biennial Integrated Report describes in detail the analysis used to identify which waters are the highest priority and whether the additional information is needed for the water (Data Collection and Monitoring Track), whether the water is healthy and has adequate protection (Adequately Protected Waters) or is at risk (Protect and Maintain at Risk), or whether the water is polluted (Waterbody Recovery).

**Comment [JC16]:** Not true. Categories 4 & 5 are both impaired. More data and monitoring are needed for Category 3 waters before the health of each water can be determined.

The Alaska Clean Water Actions (ACWA) process serves to identify those waters that are high priority to address.

The Alaska Clean Waters Action process annually prioritizes work on impaired and healthy watersheds. DEC's ACWA web page and Appendices C and E of this document provide information on the ACWA process and waterbody priorities.

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Appendix B provides the link to list of the current high priority waters and highlights those where DEC will focus resources on the next 5 years.

- 6. The state implements all program components required by section 319(b) of the CWA, and establishes strategic approaches and adaptive management to achieve and maintain water quality standards as expeditiously as practicable. The state reviews and upgrades program components as appropriate. The state program includes a mix of regulatory, non-regulatory, financial and technical assistance, as needed.**

**Comment [JC17]:** Could include more on 1) adaptive management and 2) a description of monitoring and other evaluation programs that Alaska will conduct to help determine short and long term NPS management program effectiveness and 3) identification of measures that will be used to address NPS or prevent NPS and include examples of the various manuals (SW, gravel pit, etc.) developed by DEC and other agencies (see example paragraph in text). See pages 57-58 in the guidance.

Alaska's strategy to implement nonpoint source program components required by CWA section 319(b) is identified in the Action Plan Objectives and Tasks at the end of each nonpoint source management measure (pollution source) section and summarized under Appendix B, as well as Appendix A which focuses on watershed protection/healthy waters. -These objectives and tasks are a mix of flexible, targeted, iterative approaches

that are implemented throughout the state with financial and technical assistance based on the overall goal to maintain beneficial uses of water.

Alaska identifies measures that will be used to address NPS or prevent NPS in a TMDLs, restoration plans, stormwater pollution prevention plans, and \_\_\_\_\_. DEC maintains a website "Best Management Practices to Reduce Pollution" at [http://www.dec.state.ak.us/water/wnpspc/protection\\_restoration/BestMgmtPractices/](http://www.dec.state.ak.us/water/wnpspc/protection_restoration/BestMgmtPractices/). This website provides (or will) BMPs using the following categories: Homeowners & River Erosion, Best Management Practices Home, Clean Boating, Gravel Pits, Green Infrastructure, Snow Disposal and Storm Water.

**7. The state manages and implements its NPS management program efficiently and effectively, including necessary financial management.**

Alaska's Nonpoint Source Water Pollution Program within DEC is the primary program protecting water quality in Alaska's streams and lakes from nonpoint source pollution and restoring polluted waters to a healthier condition by:

- Working with other State agencies to identify water quality needs and priorities for individual waters and statewide stewardship;
- Establishing a schedule and developing TMDLs and recovery plans on polluted waters;
- Implementing TMDLs and Recovery Plans through state staff, contracts and ACWA grants to partner agencies, local communities, and others;
- Managing the ACWA Grant Program that addresses priority stewardship, protection and restoration needs on waters throughout Alaska;
- Providing technical assistance to municipalities, local groups, and other state agencies involved in water quality projects; and
- Responding to public concerns and complaints on nonpoint source pollution in streams and lakes.

DEC uses the above range of actions to appropriately manage state and federal nonpoint source funds. DEC uses a range of financial tracking systems to monitor expenditures to ensure funds are spent as planned. For example, successful ACWA grant proposals are negotiated to ensure reasonable costs are budgeted. Quarterly grantee reports are then compared to the budgeted grant agreement. Management must approve any deviations in expenditures of more than 10% of the budget. This process ensures that the Section 319 funds and the leveraged funds provided are maximized.

**8. The state reviews and evaluates its NPS management program using environmental and functional measures of success, and revises its NPS management program at least every five years.**

Alaska endorses periodic review and evaluation of the *Alaska's Nonpoint Source Water Pollution Control Strategy*. Every five years the state reviews and upgrades the Strategy. This includes a complete reexamination of the Management Measures and Indicators and Action Plan Objectives & Tasks for each pollution source category that establishes the basis of the state's actions for the upcoming years. The PPG/PPA process helps to guide yearly priorities.

Each Action Plan table represents a mix of regulatory, non regulatory, financial and technical tasks that support a specific objective. Management Measures and Indicators are used to assess the state's success in achieving the goals for reduction of each pollution source. They are based on either the state water quality or technology programs designed to achieve and maintain beneficial uses of water. As part of Alaska's annual NPS report, DEC will provide a status report on all of the tasks included in each of the action plan tables, as well as the list of high priority waters shown in Appendix B.

**Alaska's Nonpoint Source Water Pollution Control Strategy**  
**June 24, 2013 DRAFT**

<b>Table 1. Nonpoint Source Pollution Program (NPS) Action Plan</b>		
<b>Action Plan Objectives &amp; Tasks</b>	<b>Responsible Agencies &amp; Organizations</b>	<b>Timeframe for Completion of Action</b>
<b>NPS-A. Statewide Water Quality Planning</b>		
NPS-A1. Continue using ACWA to identify Alaskan waters that are vulnerable to pollution; prioritize water bodies that are polluted and schedule clean-up actions; manage and share information on water quality; and describes how Alaska will implement best available technology and management practices to prevent pollution. Use the ACWA database to track and plan actions on all nominated ACWA waters, particularly those needing restoration or that are at risk. Provide the general public with information about AK's waters.	DEC, DFG, DNR/, Local Govts, Coastal Districts, Tribal orgs, NGOs, Fed Agencies, public	On-going
NPS-A2 Continue to educate the public on ways to reduce water pollution	DEC, DFG, UAF/CES, NGOs	On-going
<b>NPS-B. Assess water quality on a statewide basis and in targeted watersheds to support watershed planning and restoration projects to protect water quality and associated uses, including habitat.</b>		
NPS-B1. Develop and maintain a statewide water quality assessment program with tracking and website access to determine polluted waters, sources of pollution, and restoration projects and priorities.	DEC/NPS	On-going
NPS-B2. For each water identified through the ACWA nomination process, within one year of the nomination collect and review available information to determine if existing stewardship is sufficient or if there are needs for data collection, protection or restoration activities. If further needs exist, use the ACWA ranking process to prioritize the water.	DEC	Ongoing
NPS-B3. For all ACWA high priority waters, within one year after initial prioritization and annually thereafter, evaluate the nonpoint source water quality concerns and develop or modify appropriate actions that should be taken within the next year to help address those concerns, including data gaps that improve the quality of the ranking determination. Actions should be designed to address the waterbody concerns and could include implementing best management practices, constructing engineering controls, enacting local ordinances and educating the public. For medium and lower priority waters, develop and implement actions as resources permit.	DEC	Ongoing

**Comment [JC18]:** See comments on Appendix B for this measure.

**Comment [JC19]:** Date?



**Alaska's Nonpoint Source Water Pollution Control Strategy**  
**June 24, 2013 DRAFT**

<b>Table 1. Nonpoint Source Pollution Program (NPS) Action Plan</b>		
<b>Action Plan Objectives &amp; Tasks</b>	<b>Responsible Agencies &amp; Organizations</b>	<b>Timeframe for Completion of Action</b>
NPS-B4. Provide adequate field presence and follow up on complaint response, inspections, and enforcement where necessary to correct water quality violations that are reported.	DEC	On-going
<b>NPS-C. Assessment and Planning</b>		
NPS C-1 Complete assessment of fish habitat and passage at culverts on roads and systems, and prioritize sites for protection and restoration	DFG	Date?
NPS-C2. TMDLs will be developed for identified waterbodies according to the schedules established between DEC and EPA.	DEC, EPA, Local Govts	April 1, even years
<b>NPS-D. Support Water Quality Information Management Systems and Monitoring Efforts</b>		
NPS-D1. Implement a statewide water quality monitoring strategy to assure that waters reach or maintain their beneficial uses. Provide consistent, long term training for entities monitoring water quality, such as agencies, local governments, businesses and volunteers.	DEC	On-going
NPS-D2. Review and incorporate monitoring data provided by the regulated industry into an accessible water quality database such as AWQMS	DEC	Ongoing
NPS-D3 Review and incorporate ambient monitoring data provided by the regulated industry into an accessible water quality database such as AWQMS	DEC	2019
NPS- D4. As part of monitoring strategy, develop and implement approach for measuring flows on ACWA priority streams and rivers that may be impaired from nonpoint source pollution.	DEC, DNR, DFG, USGS	On-going
NPS- D5. Identify, list, assess & map important fish rearing and spawning habitat areas. Make this information available to permitting agencies and other interested parties for use in reviewing permit applications & other development activities near waterbodies. Use this information as baseline or reference data for fish habitat monitoring studies.	DFG	On-going

**Comment [JC20]:** Seems like a good one to include in Appendix B even though DEC is not the lead.

**Comment [JC21]:** See comments on Appendix B for this measure.

**Comment [JC23]:** Date?

**Comment [JC22]:** Seems like a good one to include in Appendix B

**Comment [JC25]:** Date?

**Comment [JC24]:** Seems like a good one to include in Appendix B even though DEC is not the lead.



**Alaska's Nonpoint Source Water Pollution Control Strategy**  
**June 24, 2013 DRAFT**

<b>Table 1. Nonpoint Source Pollution Program (NPS) Action Plan</b>		
<b>Action Plan Objectives &amp; Tasks</b>	<b>Responsible Agencies &amp; Organizations</b>	<b>Timeframe for Completion of Action</b>
<b>NPS-E. Strengthen partnerships with government and nongovernmental agencies and organizations to improve coordination and efficiency and reduce duplication of effort.</b>		
NPS-E1. Enhance interagency coordination by including resource agencies, education and research institutions, non-government organizations, and public in setting priorities and allocating funding.	DEC	On-going
NPS-E2. Identify areas for improved collaboration among agencies and institutions that have expertise in water quality and habitat protection, restoration, education and research.	DEC, DNR, DFG, USGS, UA, NGO, NRCS	On-going

**Comment [JC26]:** See comments on Appendix B for this measure.

**Comment [JC28]:** Date?

**Comment [JC27]:** Seems like a good one to include in Appendix B

Key:  
 DEC - Department of Environmental Conservation  
 DFG - Department of Fish and Game  
 DNR - Department of Natural Resources  
 EPA - U.S. Environmental Protection Agency  
 NGO - nongovernmental organizations  
 UA - University of Alaska  
 UAF/CES - University of Alaska Cooperative Extension Service  
 USGS - U.S. Geological Survey

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## Urban & Community Development

**Alaska's Population Distribution:** The 2012 population estimate for Alaska is 731,449 people (US Census, 2012 quickfacts). Major population centers in Alaska are the municipality of Anchorage (pop. 291,610 and surrounding Matanuska-Susitna Borough (pop. 88,895); Fairbanks North Star Borough (pop 97,581); and City and Borough of Juneau (pop. 31,275) (2010 US Census). The Matanuska-Susitna Borough has been the fastest growing area in Alaska since 1990. Other areas of Alaska experiencing population growth include the Municipality of Anchorage and the Fairbanks North Star Borough. In Alaska, the military account for about 5.3% of the total workforce, providing nearly as many jobs as the top ten private sector employers combined.

**Native Alaskans:** There are 227 federally recognized tribes in Alaska (EPA, 2000). The Alaska Native Claims Settlement Act (ANCSA) of 1971 created 12 Alaska Native Regional Corporations (ANRC), which cover the entire state except for the Annette Island Reserve, Alaska's only American Indian reservation. The ANRC's were created to facilitate both the business and nonprofit affairs of Alaska natives. Corporation boundaries were created to include Alaska Natives who share a common heritage and common interests. There are many Native villages facing challenges from growth similar to those in urban areas, including pressure for community expansion along waterways that are critical to subsistence fishing and hunting. The need to manage sewage, solid waste, petroleum products and provide clean, potable drinking water are some of the most important environmental issues facing Alaska's Native villages.

### A. Urban Water Pollution

While most of Alaska's waters are remote and presumed to be in pristine condition, many in or near population centers have been impaired. Approximately half of the waterbodies identified by the state in *Alaska's 2012 Integrated Water Quality Monitoring and Assessment Report* as having "persistent" water quality problems are located in urban areas. Historically and for the most recent Integrated Report, in urban settings (cities, towns, and villages) waters are predominantly impaired from sediment, turbidity, and fecal coliform bacteria contamination from urban and stormwater runoff.

Comment [JC29]: Define.

#### 1. Stormwater Runoff

As urbanization occurs, previously vegetated and forested spaces are cleared and developed with impervious surfaces such as rooftops, roads, parking lots and sidewalks and to a lesser degree lawns. This in turn decreases the infiltration capacity of the ground and results in greatly increased volumes of runoff and a change in the surface and subsurface hydrology. The major source of water pollution in Alaska's urban areas is polluted runoff. Sources include stormwater runoff from streets, parking lots, and snow disposal (oil and trace metals), erosion from gravel pits and construction activities (sediments), failing or improperly maintained septic systems (fecal bacteria, excess nutrients), and leachate from landfills (petroleum, metals, dissolved organic and inorganic chemicals). Fecal coliform, sedimentation, and petroleum are the most common forms of pollution in Alaska's urban areas.

## **2. Snow Disposal**

Alaska municipalities face challenges disposing of more than 100 inches of snow that falls on many maritime cities. Many of Alaska's larger cities have been developed on narrow strips of land between coastal mountain ranges and marine waters. As these land limited cities continue to grow, vacant land that was once used to store snow has been developed into residential and commercial properties. As a result, many Alaskan cities are currently disposing of snow into the marine environment or have contacted DEC about snow disposal options. In order to help DEC respond to inquiries about snow disposal requirements and to assist communities, municipalities and businesses select, prepare and maintain appropriate snow disposal sites the department developed a Snow Disposal Guidance (2007) policy and site guidance.

([http://dec.alaska.gov/water/wnpspc/protection\\_restoration/bestmgmtpractices/snow.htm](http://dec.alaska.gov/water/wnpspc/protection_restoration/bestmgmtpractices/snow.htm))

Snow collected from city streets can contain salt, sand, gravel, suspended solids, dissolved solids, oil, grease, antifreeze, heavy metals, chemicals from tire and engine wear, miscellaneous trash, debris, animal waste and other trace elements from vehicle traffic and automobile engine emissions. Some pollutants become diluted as the snow melts. Other pollutants can accumulate in the area where the snow is dumped or downstream where melt-water accumulates. In addition, the solid materials such as sand and other soil particles, which accumulate in roadway removed snow, act as contaminants by filling in streams, lakes and navigation channels.

## **3. Gravel Pit Operation**

Gravel pits occur throughout Alaska, and their improper operation can result in water quality impacts and impairment. Several potential pollutants from gravel pits include sediment, turbidity, total metals, and/or petroleum hydrocarbons. An increase in turbidity within a stream environment may result in a potential decrease in available free oxygen necessary to support aquatic life. An increase in the concentration of total suspended solids, such as silt or decaying plant matter, may destroy water supplies for human, animal, and other wildlife consumption, as well as feeding and nesting habitats by reducing oxygen or increasing temperature. Implementation of erosion prevention controls in a gravel pit can minimize the adverse impacts associated with increased sediment yield. Increased sediments in water can potentially damage fish by abrasion to gills and damage to fish redds, which is a nest of fish eggs covered with gravel, by burying or smothering.

One of the most effective ways to control pollution is the use of Best Management Practices (BMPs). BMPs are physical, chemical, structural, and/or managerial techniques to minimize water pollution. The environmental benefits of implementing effective gravel pit BMPs are:

- Reduction of toxic materials that are introduced into the environment by their attachment and transport by sediment particles;
- Less impact on growth and propagation of fish and aquatic life from decreased sediment;
- Protection of receiving waters with designated uses such as recreation and wildlife habitat.

In June 2006, DEC published the “User’s Manual Best Management Practices for Gravel Pits and The Protection of Surface Water Quality of Alaska”. This manual outlines best management practices (BMPs) for gravel pit operations where stormwater runoff may impact water quality in lakes, rivers, streams, and wetlands. The manual was updated in 2012 to include protection of groundwater. The manual is available at the following web address:

[http://dec.alaska.gov/water/wnpspc/protection\\_restoration/bestmgmtpractices/gravel.htm](http://dec.alaska.gov/water/wnpspc/protection_restoration/bestmgmtpractices/gravel.htm)

#### **4. On-site sewage disposal systems (OSDS)**

OSDS are common in Alaska’s urban and rural communities and are considered by EPA and a growing number of professionals to be a low-cost, long-term wastewater treatment option. However, improperly installed, improperly operated and maintained, or aging OSDS fail to properly treat domestic wastewater and are a primary source of fecal coliform bacteria, biological oxygen demand (BOD), and nutrients such as ammonia-nitrogen. These poorly functioning onsite septic systems can contribute to the contamination of surface water, groundwater, and drinking water and can result in the spread of viral and bacterial illnesses. This may cause costly public health problems and environmental contamination and degradation.

In addition to being properly designed and installed, onsite systems must be operated and maintained to provide treatment that is as good as, or even better than that provided by centralized wastewater treatment plants.

#### **5. Fecal Coliform Bacteria**

Fecal coliform bacteria come from the intestines of all warm-blooded animals, including pets and humans. The presence of fecal coliform indicates a potential pathway for other pathogenic organisms that cause human disease. The most frequent sources from human activities are stormwater runoff that contains pet waste, malfunctioning on-site sewage treatment and disposal systems, inadequate wastewater treatment and disposal on vessels in small boat harbors, publicly owned wastewater treatment plants (POTW’s), and improper waste disposal. Other potential non human related sources are wildlife and waterfowl.

#### **6. Sedimentation**

Soil, particles of plant debris and other particles typically enter waters from natural processes. However, human activities and land uses often tremendously increase the

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amount of sediment entering waters and cause water quality degradation. Sediments also can carry pollutants and change the characteristics of the stream, lake, or other surface water. The major sources of sediment include runoff from roads, commercial construction projects, housing construction, and commercial developments, gravel pits, snow disposal and stream bank erosion.

## **7. Petroleum**

Petroleum products enter surface and groundwater through the exhaust from boat motors, road and parking lot runoff, accidental spills, leaking fuel storage tanks and pipelines, and inadequately constructed or managed landfills.

## **8. Alteration of Natural Hydrology**

Development often alters streams and other waterbodies. Changes to runoff, diversions, channelization, and destruction of natural drainage systems can result in riparian and tidal wetland degradation or destruction. Appropriate land use planning, permitting, development practices, and enforcement of local ordinances are necessary to protect sensitive ecological areas, minimize land disturbances and retain natural drainage and vegetation whenever possible.

## **9. Temperature**

Exceedances of temperature standards have been observed in several Alaskan streams through recent monitoring efforts conducted DEC grant funded projects. —It is not known if temperature exceedances are due solely to natural conditions or to human activities. Potential causes may include climatic changes and the removal of forest cover in urban settings and logged areas that result in temperature increases in groundwater and surface runoff. Other potential causes may be the loss of riparian cover due to urban development and flooding from natural events possibly accentuated by human activities.

## **10. Solid Waste**

Permitted municipal solid waste (MSW) disposal facilities (landfills) are reviewed by the DEC, Solid Waste Program to ensure they are located and designed to safely accommodate MSW and to control pollution from migrating off-site. In addition, many unpermitted small municipal landfills exist in the state. Of the 187 small municipal landfills identified as Class III (low risk) facilities in the state, approximately 66 have current permits. Some of these landfills were permitted at one time that allowed their permit to expire, and others have never been permitted by DEC. DEC inspects both permitted and unpermitted landfills to review design, and potential risks to human health and the environment. Some of the Class III landfills in the state have uncontrolled access and are open 24 hours per day. An unknown number of un-permitted Class III facilities may be located in wetlands or adjacent to waterbodies.

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In order to identify the quality of water influenced by Class III landfills, DEC solicits sufficient and credible information to support remedial action, and if necessary to develop a sampling strategy for waters that necessitate attainment requirements. This information is necessary for the Nonpoint Source Pollution Water Pollution Control program to characterize all water bodies within the state, as required by federal law. Waters that may be negatively impacted by Class III landfills should be monitored to establish water quality conditions. Surface water or groundwater pollution is particularly a concern in areas of high precipitation due to leachate formation. Leachate is a solution of dissolved and suspended particles of waste matter that form when water comes into contact with waste.

Residential solid waste consists of materials discarded from single and multi-family dwellings and individuals. It commonly includes paper, plastic, glass, metal, rubber and leather, textiles, food wastes, yard wastes, and household hazardous wastes. Other items commonly discarded in rural Alaska include: animal carcasses and sewage.

Open burning MSW in rural Alaska is widely practiced to reduce waste volume and make the waste less attractive to animals. Open burning means the burning of a material that results in the products of combustion being emitted directly into the air without passing through a smoke stack. Open burning includes burning garbage directly on the ground, in burn cages, and in burn barrels. Open burning is the least effective form of combustion. Unless closely managed, an open burn cannot achieve the temperatures needed to completely burn many components of municipal garbage. This allows the formation of potentially hazardous materials and renders ash that is more attractive to animals and more likely to cause surface and groundwater pollution at landfills. Common materials that pose a threat to the environment when burned are: foam, rubber, plastic, household hazardous waste, which release dioxins and other deleterious compounds when improperly burned.

For more information on open burning the DEC, Division of Environmental Health, Solid Waste Program prepared a publication for small communities considering incineration and energy recovery titled "Burning Garbage and Land Disposal in Rural Alaska"(May 2004) at the following web address:  
[http://dec.alaska.gov/eh/docs/sw/Open\\_Burning\\_Rural\\_AK.pdf](http://dec.alaska.gov/eh/docs/sw/Open_Burning_Rural_AK.pdf)

## **11. Contaminated Sites**

The mission of the Contaminated Sites Program is to protect public safety, human health and the environment by identifying, overseeing and conducting the cleanup and management at contaminated sites in Alaska. The program identifies, assesses, ranks, prioritized and monitors clean up and management of over 2,300 contaminated sites in the state. The program conducts insures clean up is conducted at the highest priority sites, insuring water quality standards will be met as a part of the clean up process. Some of these sites are in urbanized areas. DEC's Non-Point Source program collaborates with

the Contaminated Sites program to identify and address those sites that may be impacting water quality.

## **B. Regulatory Controls**

Examples of municipal ordinances that address nonpoint source water pollution appear in a table in Appendix F.

~~Alaska's most populated areas (Anchorage and Fairbanks) are excluded from implementing the Existing Development management measure because they have been designated as municipalities subject to EPA's National Pollutant Discharge Elimination System (NPDES) Phase I and Phase II Storm Water regulations.~~

**Comment [JC30]:** This is referencing a requirement under CZARA and since AK is no longer participating in that program, it seems appropriate to delete this paragraph.

The State of Alaska regulates onsite sewage disposal systems through its Wastewater Disposal regulations (18 AAC 72). Conventional systems may be installed by a person who obtains department certification as an installer on a two-year retraining and recertification basis. Engineered plans for non-conventional onsite systems must be submitted to the department for review and approval prior to installation. For engineered systems, the department has a two-step process, first granting approval to construct and secondly granting approval to operate, after the installed system documentation is submitted to the department. For onsite systems installed by certified installers, the approval process is streamlined. In Anchorage and Valdez, the OSDS program is delegated to the local government under a renewable agreement.

For watersheds outside without regulatory controls, the state will strive to reduce non-point source pollution through voluntary measures. This includes supporting local regulatory efforts through the Alaska Clean Water Actions grant program.

## **C. Key Partnerships**

### State Agencies

DEC Programs: Nonpoint Source Section, Wastewater Discharge, Water Quality Standards, Assessment and Restoration, Village Safe Water, Drinking Water, Solid Waste, Prevention and Emergency Response, Contaminated Sites, Municipal Water Sewerage and Solid Waste Matching Grant recipients

DNR Programs: Water Rights, Alaska Hydrologic Survey, Land Use Planning, Forestry

DFG Programs, Sport Fish, Special Areas, Office of Habitat Management and Permitting (OHMP), Office of Project Management and Permitting,

DOTPF, Statewide Planning, Harbors, Storm drain

Soil & Water Conservation Districts

Educational Institutions: University of Alaska Anchorage, University of Alaska Fairbanks, University of Alaska Southeast

Federal Agencies: EPA, U.S. Geological Survey, Army Corps of Engineers, NOAA/Office of Oceans & Coastal Resource Management, National Park Service, Natural Resource Conservation Service, Bureau of Land Management, U.S. Forest Service, and U.S. Fish and Wildlife Service

Local Governments: Alaska municipal governments (organized boroughs, unified home rule municipalities, incorporated cities), coastal districts

Tribal/Native Organizations: Native Regional Corporations, Villages, and Councils, Intertribal Councils

Non-governmental Organizations/Private sector industries: watershed partnerships, real estate industry and home mortgage lending institutions, Soil and Water Conservation Districts, Alaska Associated General Contractors

Other:

Professional engineers and contractors

Homeowners

#### **D. Goals for Reduction of Pollution from Urban and Community Development**

Alaska's nonpoint source pollution goals with respect to Urban and Community Development follow:

- Promote and encourage local watershed protection and the protection of community water resources.
- Assess statewide water quality protection efforts and offer tools for effective planning and permitting.
- Promote educational opportunities to control and abate nonpoint source pollution that are a result of particular land uses related to urbanization and human activities.
- Promote proper operation and maintenance of onsite sewage disposal systems through clear regulatory requirements on system approvals, homeowner education (Internet-based materials); cooperation and technical assistance to local governments in their building permitting, planning approvals, and ordinance development; cooperation with mortgage lenders on point of sale requirements for Operation and Maintenance, system upgrades, and effective enforcement.



**Alaska's Nonpoint Source Water Pollution Control Strategy**  
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**Table 2. Urban and Community Development Action Plan (UR)**

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Action Plan Objectives & Tasks	Responsible Agencies & Organizations	Timeframe for Completion of Action
<b>UR-A. Support local watershed protection efforts and encourage communities and the public to protect their local water resources.</b>		
UR-A1. Support local entities in their actions to develop and implement controls for non-point source pollution resulting from both stormwater and on-site systems. Actions may include, but not be limited to: ordinance development, construction of engineering controls, enforcement of existing controls, and construction of low impact development (LID) facilities, and regulation of on-site sewage.	DEC, Local Govts, NGO, Mortgage lending institutions	On-going
<b>UR-B. Provide educational, technical and financial assistance to communities to ensure good drinking water and basic sanitation and sewage disposal needs are met</b>		
UR-B1. For communities over 5,000 people, work to ensure that practices and/or ordinances exist that maintain predevelopment site hydrology and limit unnecessary increases of impervious areas that create significant changes in the hydrology. In instances where impervious surface is necessary, maintain post development average volume and peak run off rates similar to predevelopment levels.	DEC, Local Govts	On-going
UR-B2. For cities that have done stormwater mapping and identified problem areas, implement water quality enhancement projects and educational efforts to allow adequate and proper treatment of stormwater runoff and minimize adverse impacts to water resources.	DEC, Local Govts	On-going
UR-B3. Support public education and awareness campaigns to minimize stormwater runoff from existing and new construction, including roads, highways and bridges	DEC, Local Govts	On-going
UR-B4. For all activities covered under NPDES general construction permits, ensure that prior to land disturbance, prepare and implement an approved erosion and sediment control plan that reduce erosion and, to the extent practicable, retain sediment on-site during and after construction.	DEC, Local Govts	On-going
UR-B5. For at least one community over 5,000 people, develop stormwater management programs for their local areas that include at minimum: mapping existing stormwater drain systems, identifying water quality coming out of storm drains, and identifying storm drains that are inadequate or non-functional.	Local Govts, DEC	2016

**Comment [JC31]:** Seems like a good one to include in Appendix B.

**Alaska's Nonpoint Source Water Pollution Control Strategy**  
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<b>Table 2. Urban and Community Development Action Plan (UR)</b>		
<b>Action Plan Objectives &amp; Tasks</b>	<b>Responsible Agencies &amp; Organizations</b>	<b>Timeframe for Completion of Action</b>
<b>UR-C. Provide tools to incorporate effective water quality protection in land use planning and improved permitting and plan review decisions.</b>		
UR-C1. Provide training materials and list of best management practices (BMPs) to cities, private sector developers and engineers doing construction activities.	DEC	Ongoing
UR-C2. Revise actions needed for ACWA high priority waterbodies on an annual basis.	DEC/NPS, DFG EPA, NGOs	On-going
UR-C3. Maintain up-to-date forms on the department's website for submittal and department approval of onsite sewage disposal systems.	DEC	Ongoing
<b>UR-D. Promote educational opportunities to control and abate nonpoint source pollution. Tasks include:</b>		
UR-D1. Support education programs on the proper operation and maintenance of on-site sewage disposal systems for the system owners (homeowners, small commercial businesses, etc.).	Local governments, NGO	2015
UR-D2. Develop and implement at least one local program that provides education on proper disposal of pet waste to avoid impacts to surface waters. Incorporate information into statewide efforts.	DEC	2016
UR-D3. Develop and implement at least one program that provides education on proper disposal and control of trash to avoid impacts to surface waters.	DEC	2015
UR-D4. Provide training materials, guidance documents and/or list of best management practices (BMPs) via the DEC web site on ways to reduce NPS pollution from non-point source activities (e.g., green infrastructure, gravel pits, snow storage, harbors and marinas, etc.)	DEC	Ongoing

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**Comment [JC32]:** See comments on Appendix B for this measure.

**Comment [JC33]:** Seems like a good one to include in Appendix B.

Key:  
 DEC - Department of Environmental Conservation  
 DEC/NPS - Department of Environmental Conservation/Nonpoint Source  
 DNR - Department of Natural Resources  
 NGO - nongovernmental organization  
 UAF/CES - University of Fairbanks Cooperative Extension Service  
 USEPA - U.S. Environmental Protection Agency

## **Forest Practices**

Sediment is a major pollutant associated with forest practices activities conducted in Alaska that may adversely affect water quality and beneficial uses. Increased sediment loading to surface waters of Alaska may result from land disturbing activities associated with logging roads and timber harvesting operations. Excessive sediment in surface waters can adversely affect drinking water quality and the growth and propagation of fish and shellfish. Forestry operations conducted in uplands may also lead to changes in stream morphology and habitat due to altered runoff timing and yield which can adversely impact fish spawning and rearing habitat. Log storage and transfer facilities (LTF) in Alaska's coastal zone can potentially contribute tree bark and wood debris to estuaries which can result in the modification of benthic habitats and leach tannic acid, phenols, and oxygen depleting compounds. LTF permits from APDES (Alaska Pollutant Discharge Elimination System) require that Best Management Practices be used to minimize the discharge of bark. Pollution Prevention Plans for LTFs identify specific operational practices for transferring logs and handling logs in and out of water that minimize bark discharges.

### **A. Regulatory Controls**

#### **1. Regulatory Controls for Forest Activities on State, Private and Other Public Lands**

The State of Alaska's forest practices program is organized into two regulatory components: forestry activities that take place on state, private and other public lands; and forestry activities that take place on federal lands. "Other public lands" are defined as lands managed by state agencies other than the DNR, land owned by a municipality and land owned by the University of Alaska. Forestry activities on state, private and other public lands are regulated by the Alaska Forest Resources and Practices Act (FRPA) of 2006. Alaska's natural resource agencies (DEC, DNR- Division of Forestry (DOF) & DFG) also utilize the following references to guide their analysis of forestry related projects on state, private and other public lands: Alaska Administrative Code found at 11 Alaska Administrative Code (AAC) 95 (Alaska Forest Resources and Practices Regulations); Alaska's Water Quality Standards (18 AAC 70); and *Alaska's Nonpoint Source Water Pollution Control Strategy*.

Alaska's state forests and other public and private forests are divided into three state management regions:

- FRPA Region I- Coastal Sitka Spruce/Hemlock Forest;
- FRPA Region II- Interior Spruce/Hardwood Forest, South of the Alaska Range;
- FRPA Region III- Interior Spruce Hardwood Forest, North and West of the Alaska Range

DOF develops Forest Land Use Plans and timber sale contracts for the harvest of timber on state lands. DOF also receives Detailed Plans of Operation (DPO) for harvest of timber on private, municipal, and trust lands. These documents are an integral part of Alaska's forest practices regulatory program. The DOF is required to provide these planning documents to DEC and DFG. DEC and DFG review the Forest Land Use Plans and DPO's to evaluate potential impacts on water quality and habitat. DEC and the DFG provide comments to DOF based on the above statutes and regulations to ensure that the BMPs contained in FRPA are implemented in the field.

## **2. Regulatory Controls for Forest Activities on Federal Lands**

The second regulatory component of Alaska's forestry program pertains to forestry operations on federal lands. Forestry operations on federal lands in Alaska are regulated by the 1990 Tongass Timber Reform Act (TTRA), the 2008 revision of the Tongass Land Management Plan (TLMP) and the CWA.

Currently, almost all forestry operations on federal lands in Alaska occur within the Tongass National Forest which is located in southeast Alaska. The Chugach National Forest Land and Resource Management Plan did not establish an allowable timber sale quantity and, therefore, no significant commercial timber harvest activities are planned for that forest. The Bureau of Land Management (BLM) manages vast forest resources in the interior portion of Alaska but these lands are generally not developed for timber harvest due to poor access and other factors.

Prior to July 1, 2011, federal timber sale activities in Alaska were required to meet or exceed the requirements of the FRPA and its implementing Regulations, which constituted the standards of the Alaska Coastal Management Program (ACMP) for forest practices activities. The ACMP expired on June 30, 2011 and was not extended by the Alaska Legislature. It is unknown whether a new ACMP will be developed in the future. However, the U.S. Forest Service will continue to provide all timber sale planning and National Environmental Policy Act (NEPA) documents to the State and the State will continue to comment on USFS timber sales on the Tongass National Forest under the National Environmental Policy Act (NEPA) and Section 319(k) of the Clean Water Act. The State will also continue to participate in monitoring timber harvest and other activities, and continue to work with the USFS in ongoing efforts to improve the economic viability of the timber sale program, and to adjust the Tongass Forest Plan, if necessary.

### **B. Key Partnerships**

Partnerships between state agencies, federal agencies, and the private sector are essential to successful implementation of the Strategy. Key partnerships already in place include the following:

- FRPA implementation- The FRPA depends on collaborative work by the state resource agencies; DNR/DOF is the lead agency. The agencies review

notifications of operation and jointly conduct field inspections. DEC is granted due deference for water quality issues, and DFG is granted due deference for fish habitat issues. DFG also is responsible for resolving questions regarding stream classification on private land in Region I.

- Science and Technical Committee- a Science and Technical Committee with members from the state resource agencies, the USFS, the National Marine Fisheries Service, and private consultants led the review of forest practices standards in Region I that resulted in the 1999 revisions to the FRPA and regulations. A similar group with members from the state resource agencies, the US Geological Survey, the University of Alaska, and private consultants led the review of riparian management standards in Region III, which culminated in the passage of legislation that established new riparian protection standards for Interior Alaska. The Region II Science and Technical Committee, which was co-chaired by the DOF and OHMP, and had 15 members with expertise in fisheries biology, hydrology, forest ecology, forest soils, and in the management of Alaskan forests, fish, and water. This committee reviewed the riparian management standards for Southcentral Alaska and recommended changes to the riparian standards for Region II that passed by the legislature in 2006. This legislation requires timber retention on private forest lands along waterbodies that contain anadromous and/or high value resident fish in Region II.

- Monitoring- DEC and DOF jointly developed the protocols for implementation monitoring. DOF is the lead agency for conducting this monitoring; DEC and DFG are encouraged to participate as well. The agencies have also cooperated with the timber industry and other private entities on effectiveness monitoring projects and peer review of the results.

- Road Condition Surveys -DOF and DFG are jointly conducting road condition surveys on forest operations on non-federal land.

- Research- Each year, DOF convenes a meeting to discuss and establish interagency and stakeholder funding priorities for water quality-related research and effectiveness monitoring of the FRPA and Regulations. Partners in this effort include representatives of state and federal agencies, the University of Alaska, native corporations, the timber industry, and environmental groups.

- Board of Forestry- Oversight for implementation of the FRPA is provided by the Board of Forestry with broad representation of affected interests.

- Funding -DEC, DNR/DOF, DFG cooperation on funding priority

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### **C. Goals for Reduction of Pollution from Forest Practices**

Responsible agencies will provide the appropriate items to DEC to document the implementation and effectiveness of the management measures contained in the FRPA, forest practices regulations, and the Standards and Guidelines contained within Tongass Land Management Plan. Alaska's nonpoint source water pollution goals with respect to Forest Practices follow:

#### **Goals for Private, State, and Other Public Lands**

- Annual State agencies meetings will continue to set priorities and estimate budgets for the upcoming fiscal year. Top priorities should include evaluating and inspecting Forest Practices activities with the most risk of causing adverse impacts to water quality. The top priority for state agencies is continued funding for state agency personnel to conduct FRPA related work.
- Conduct ongoing review and evaluation of selected planning documents prepared under the forest practices program including Forest Land Use Plans and Detailed Plan of Operations to assure that adequate BMPs are in place to protect water quality.
- Conduct ongoing, periodic field inspections of timber harvest operations on state, private and municipal lands to assess compliance with the FRPA. Complete compliance score sheets for each inspection, and annually compile compliance data.
- Provide training for state agency staff, forest land owners, and timber harvest and road construction operators through training workshops and field trips, and prepare and distribute public information materials.

#### **Goals for Federal Lands**

- Conduct routine forest practices activities including: 1) state review and evaluation of selected Forest Service planning documents to determine consistency with the National Environmental Policy Act (NEPA) and Section 319(k) of the Clean Water Act, state and federal regulations, Forest Service BMPs, and the *Alaska's Nonpoint Source Water Pollution Control Strategy*; 2) ongoing, periodic field inspections of timber harvest and road construction operations on National Forest lands in cooperation with the Forest Service; and 3) annual BMP implementation monitoring on a sample of national forest Ranger Districts with timber harvest and/or road construction activity.
- Evaluate the effectiveness of Forest Service BMPs in meeting State Water Quality Standards and protecting beneficial uses of waters of the state. Document these evaluations and make needed recommendations to improve future management through the Forest Service's National Core BMPs.

**Alaska's Nonpoint Source Water Pollution Control Strategy**  
**June 24, 2013 DRAFT**

**Table 3. Forest Practices (FP) Action Plan**

Action Plan Objectives & Tasks	Responsible Agencies	Timeframe for Completion of Action
<b>FP-A. Action Plan Tasks for Forestry Activities on Private, State and other Public Lands.</b>		
FP-A1. Conduct ongoing review and evaluation of selected planning documents prepared under forest practices program including forest land use plans and detailed plans of operation to assure that adequate BMPs are in place to protect water quality.	DNR, DFG, DEC	Ongoing
FP-A2. Conduct ongoing, periodic field inspections and compile compliance score sheets for timber harvest operations on state, private and municipal lands to assess compliance with the FRPA.	DNR, DFG, DEC	Ongoing
FP-A3. Provide training for state agency staff, forest landowners, and timber harvest and road construction operators through workshops and field trips, and prepare and distribute public information materials.	DNR, DFG, DEC	Ongoing
<b>FP-B. Action Plan Tasks for Forestry Activities on Federal Lands</b>		
FP-B1. Conduct routine forest practices activities including: 1) state review and evaluation of selected USFS planning documents to determine consistency with the state forest practices regulations and to demonstrate consistency with the Alaska Nonpoint Source Water Pollution Control Strategy; 2) ongoing, periodic field inspections of timber harvest and road construction operations on National Forest lands in cooperation with the USFS; and 3) annual BMP implementation monitoring on all national forest Districts with timber harvest and/or road construction activity.	DEC, DFG, USFS	Ongoing
FP-B3. Evaluate effectiveness of USFS BMPs in meeting state Water Quality Standards and protecting beneficial uses of waters; when necessary, make appropriate revisions to USFS BMP handbook & Forest Plan Standards & Guidelines, & prepare annual Monitoring and Evaluation report for interagency review.	USFS, DEC, DFG	Ongoing

**Comment [JC34]:** Seems like a good one to include in Appendix B.

**Comment [JC35]:** How are these documents selected?

**Comment [JC36]:** Seems like a good one to include in Appendix B.

Key  
 DEC Department of Environmental Conservation  
 DFG Department of Fish and Game  
 DNR Department of Natural Resources  
 USFS US Forest Service

## **Harbors and Marinas**

A variety of challenges face harbor masters, water quality agency staff, and users of the state's harbors and marinas to prevent water pollution in and adjacent to these developed facilities. Water pollution sources from Harbors and Marinas are: harbor dredging, upland hull maintenance areas, fueling stations, construction and maintenance of sewage facilities, solid waste, and solid waste from the use of tidal grids, fish waste, hazardous material, stormwater runoff, and petroleum products.

### **A. Regulatory Controls**

#### **Department of Natural Resources**

##### **Management of Boat Operation**

DNR manages recreational uses and development activities, including boat operation, through Alaska Statutes (AS) 41.21.020 (duties and powers of Natural Resources; limitations), and AS 41.21.500 (Purpose of AS 41.21.500 - 41.21.514) and their pursuant regulations. DNR enforces regulations specific to the issue of boat operation for purposes of protecting fisheries and wildlife and their habitats within the Kenai River Special Management Area, in 11 AAC 20.860 (boat motor use), 11 AAC 20.862 (boating methods), 11 AAC 20.865 (establishment of non-motorized areas), 11 AAC 20.867 (personal water craft), and 11 AAC 20.870 (boating and aircraft speed limits).

DNR regulations applicable to other State recreation areas and other state land include 11 AAC 20.922 (use of power boats at Rocky Lake State Recreation site) and 11 AAC 20.985 (use of motorized boats) in twelve state recreation areas. Additionally, the director of the Division of Parks may impose restrictions on a use or activity in order to protect environmental values and resources. If the restriction is significant, it must be adopted as a regulation.

##### **Municipal Nonpoint Source Pollution Ordinances**

Thirteen local governments in coastal areas enforce ordinances regarding boat operation. The linked table in Appendix F provides information on local ordinances and management practices of various Alaska communities, which manage boating activities to decrease turbidity and physical destruction of shallow water habitat.

##### **Department of Transportation and Public Facilities**

DOTPF negotiates harbor management agreements with communities to maintain and operate state harbor facilities. The management agreements are written in general terms to ensure the operator complies with all existing and future federal, state and local laws, regulations, and ordinances. The agreements may be supplemented to specifically cite new rules or regulations. If nonpoint source pollution controls are adopted under a federal law, state statute or municipal ordinance, they will automatically be included in the agreements. If nonpoint source pollution controls are adopted in the form of guidelines, they may be recommended by the state for implementation. Funding for these changes would come from increased user fees or state grants. DOTPF has the authority to ensure compliance with the harbor management agreements. Failure to comply with



terms of the agreement is set out in each individual agreement. In general, the state may cancel the agreement on 60 days notice for failure to comply with its terms. The operator may also cancel the agreement, in which case the state would be responsible for operation and maintenance of the facility.

The Coastal and Harbors Design Procedures manual was cooperatively written by DOTPF and the U.S. Army Corps of Engineers (COE). The final manual addresses all aspects of siting and design of harbors including flushing, water quality assessment, habitat assessment, shoreline stabilization, stormwater runoff, fueling station design, sewage facilities, grids and solid waste management. Other state and federal agencies review and comment on the manual as it is periodically updated. The manual recommends best design practices for coastal harbor design Best Management Practices. The web address for this manual is:

<http://www.dot.state.ak.us/stwddes/desports/resources.shtml>

**Comment [JC37]:** Is this on your BMP website?

The Alaska Sea Grant College Program, University of Alaska Fairbanks published the Northern Harbors and Small Ports Operation and Maintenance manual. This manual includes chapters on best management practices for hazardous and other materials used in harbor construction and maintenance, operation and maintenance of marine structures such as fish cleaning stations and mooring docks, and a thorough discussion of marine construction materials. The web address for this manual is:

[http://www.dot.state.ak.us/stwddes/desports/assets/pdf/northharbors\\_smports\\_ops.pdf](http://www.dot.state.ak.us/stwddes/desports/assets/pdf/northharbors_smports_ops.pdf)

**Comment [JC38]:** Is this in your BMP website?

## **B. Key Partnerships**

Key partners for harbors and marinas include the Alaska Association of Harbormasters and Port Administrators; State of Alaska resource agencies (DEC, DNR, and DFG); the Army Corps of Engineers; the United States Coast Guard; the DOTPF; University of Alaska Marine Advisory Program, municipalities, citizens concerned by harbor and marina activities, and coastal district coordinators.

## **C. Goals for Reduction of Nonpoint Source Pollution from Harbors and Marinas**

Alaska's nonpoint source pollution goals with respect to Harbors and Marinas follow:

- Education of harbor and marina users that their actions can affect water quality and cause pollution.
- Design future harbors and marinas to maximize opportunities for adequate flushing and to incorporate infrastructure to address sewage, used oil, other vessel-generated wastes, and stormwater issues that affect water quality.
- Increase the number of harbors that are Clean Harbor certified.
- Continue the process to support development of Harbor Management Agreements for communities that need them.

**Comment [JC39]:** Shouldn't this be included in the table with a possible commitment of a certain number of communities within the five year timeframe.

- Expand existing harbor and marinas to include fish waste disposal, hazardous waste collection efforts, construct new and expand existing pump-out stations.
- Encourage community workshops on spill prevention planning and how to comply with the Marine Oil Pollution (MARPOL) Act and DEC spill regulations.

**Comment [JC40]:** Should this be included in the table?

**Alaska's Nonpoint Source Water Pollution Control Strategy**  
**June 24, 2013 DRAFT**

<b>Table 4. Harbors and Marinas Action Plan (HM)</b>		
<b>Action Plan Objectives &amp; Tasks</b>	<b>Responsible Agencies &amp; Organizations</b>	<b>Timeframe For Completion of Action</b>
HM-1. Provide Corps of Engineers guidelines to dredging activities to minimize impacts of dredging & disposal of dredged material	DOTPF, Local Govts, Corps of Engineers	On-going
HM-2. Maintain U.S. Coast Guard requirement that fuel spills over five gallons are reported. Maintain DOTPF Harbor Management Agreements that require fuel dock operators to have spill equipment on-scene, and appropriate spill prevention plans. Hold workshops on how to prepare oil spill response plans and how to comply with MARPOL and DEC regulations.	Coast Guard DOTPF Local Govts	On-going
HM-3. Establish procedures to ensure water quality and aquatic habitat concerns are considered in design and siting of new and significantly expanding marinas. Ensure developers who site and construct harbors or marinas are familiar with Alaska Coastal and Harbor Design Procedures manual.	DOTPF Local Govts	On-going
HM-4. Continue to participate in the Clean Harbors program. The Clean Harbor program is a voluntary program to reduce pollution from harbor and boating activity.	NGO, Harbormasters	On-going
HM-5. For harbors and marinas where fish waste is an issue, work to improve fish waste disposal at one (1) harbor	DOTPF, DEC Local Govts	2013

Key:  
 DEC - Department of Environmental Conservation  
 DOTPF - Department of Transportation and Public Facilities

**Comment [JC41]:** Date for establishing the procedures?

**Comment [JC42]:** Has this been accomplished or does the date need to be revised? What about better aligning with the goal of "Expand existing harbor and marinas to include fish waste disposal, hazardous waste collection efforts, construct new and expand existing pump-out stations" ?

## Hydromodification

Hydromodification refers to activities relating to dams, channelization, channel modifications, water withdrawals and human-caused shoreline and stream bank erosion that can adversely affect water quality.

### A. Management Measures and Indicators

The following Management Measures and Indicators will be used to assess the State's success in achieving its Hydromodification goals and objectives.

- Number of waterbodies on the Section 303(d) List of Impaired waterbodies that are listed because of nonpoint source pollution stemming from hydromodification activities.
- Number of assessed waterbodies associated with hydromodification that protect public health and the environment by supporting a) fish and shellfish consumption, b) safe recreation, and c) healthy aquatic life use designations (based on the 305(b) report and the 303(d) list).

### B. Regulatory Controls

#### ~~Department of Natural Resources~~

#### Department of Natural Resources

##### Division of Mining, Land and Water

The Department of Natural Resources has the authority under AS 46.17 to adopt regulations and issue orders necessary for ensuring dam safety. DNR enforces dam safety statutes and regulations through appropriate legal actions, if necessary, including issuing injunctions assuming operational control of the dam, breaching the dam, or other activities necessary to mitigate the risk. DNR permit requirements are enforced with the assistance of the state attorney general. A person is guilty of a Class A misdemeanor if the person "knowingly...violates...an approval, order, regulation, or requirement..." of the Department. If the situation demands, the Department of Natural Resources can seize control of a dam in an emergency and require the owner to comply with the permit conditions or have the work done and charge the owner. Persons giving false reports regarding the condition of a dam can be prosecuted under criminal statutes.

Under AS Sec. 46.15.147. *Termination of permits*, the DNR Commissioner can terminate the appropriation permit if the commissioner believes the permittee is willfully violating or has willfully violated a term, condition, restriction or limitation of his permit. Under AS Sec. 46.15.180. *Crimes*, a person who violates the Water Use Act as specified in this section is guilty of a misdemeanor.

*Article 6. Enforcement of 11 AAC 93.230 Water Management Regulations* specifies that a violation of a provision of the regulations, a lawful order of the commissioner issued

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under AS 46.15, or a term or condition of a permit or certificate issued under this chapter is subject to corrective action under 11 AAC 93.280-11 AAC 93.290.

#### **Water Resources Section**

The Division of Mining, Land and Water, Water Management Unit is responsible for the following:

- Evaluate in-water related development projects (hydroelectric developments, public water supply, water exports, etc.) that may have the potential to negatively impact fish and wildlife resources and access to those resources through the appropriation and use of water.
- Collect and analyze data to ensure that water-related development projects leave enough flow to support existing permitted uses and the public interest such as recreation, transportation, fish, wildlife and aquatic habitat.
- Facilitate permitting as a multi-agency effort to ensure the maximum use of water resources and still protect holders of prior water rights, as well as water quality, fish and wildlife populations, aquatic habitat, and other public interests.

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#### **Alaska Hydrologic Survey**

The objective of the Alaska Hydrologic Survey (AHS) is to provide technical hydrologic information to ensure proper and accurate management of the State's water resources for the benefit of the people of the State of Alaska. Hydrologic data are provided to state, federal, and municipal governments, as well as industry and the general public. The statutory basis for the AHS existence and programs are under AS 41.08. Under this statute, AHS is specifically charged with "the systematic collection, recording, evaluation, and distribution of data on the quantity, location, and quality of water of the state in the ground, on the surface of the ground, or along the coasts, are in the public interest and necessary to the orderly domestic industrial development of the state. More information is available on the DNR, Alaska Hydrologic Survey website at: <http://dnr.alaska.gov/mlw/water/hydro/index.cfm>

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#### **Dam Safety Construction Unit**

DNR is the lead agency for implementation of the Alaska Dam Safety Program, administered by the Dam Safety and Construction Unit. The dam safety regulations are articulated under Article 3 of 11 AAC 93. The current dam safety regulations require the applicant to submit an erosion control plan. Proposed revisions to 11 AAC 93.171(c)(11) require "an erosion control plan documenting measures to be used during and after construction to limit erosion, both within the construction site and in the downstream channel." In determining whether or not an erosion control plan is acceptable, the Dam Safety and Construction Unit considers the stability of the stream channel immediately above and below the dam, how the stream will be controlled during construction, the dam foundation materials, the method of construction and dam construction materials, and site surface drainage during construction.

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**Comment [JC44]:** When was this revision proposed? When do you anticipate the revisions being finalized?

For existing dams, a current periodic safety inspection and a current operations and maintenance manual are required to receive a certificate of approval to operate a dam. A

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new certificate of approval to operate a dam is required every three years for Class I (high) and Class II (significant) hazard potential dams, and every five years for Class III (low) hazard potential dams. 11 AAC 93.19 requires the periodic safety inspection to be conducted by an Alaska registered, professional engineer under guidance provided by the Department of Natural Resources.

### **Department of Fish and Game (DFG)**

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#### **Office of Habitat Management and Permitting (OHMP)**

-DFG may request that monitoring (pre, during, and post-construction) and mitigation provisions be integrated into the project plan during the early design phase. -Pre-project studies are requested when data are insufficient for assessing the environmental impacts of a proposed project.

AS 41.14.840 (formerly AS 16.05.840); mandates that activities within a waterbody provide efficient fish passage, both upstream and downstream. Currently, OHMP applies this standard to all waterbodies known to support fish (resident or anadromous). There is no formal catalog of documented resident fish streams equivalent to the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes. OHMP does not apply the fish passage statute where the presence of fish is not documented. If OHMP is not certain of the absence or presence of fish, they may require developers to conduct field work to identify if fish are present.

AS 41.14.870; requires: a) the Deputy Commissioner of the Department of Fish and Game to specify the waterbodies important for the spawning, rearing, or migration of anadromous fish; b) a person or agency to notify OHMP before beginning any activities using, altering, or polluting a specified anadromous fish waterbody; and c) a person or agency must receive OHMP approval of project plans before beginning the proposed activity.

#### **Statewide Aquatic Resources Coordination Unit (SARCU)**

-The SARCU provides departmental coordination, scientific expertise, core personnel, data collection and analyses, and other relevant scientific information and actions needed by the DFG to comply with state, federal, and local laws. Fish, wildlife, and aquatic data are obtained, analyzed, and effectively used to make recommendations for sustaining fish and wildlife production, including waterway access.

#### **Sport Fish Division**

Chapter 20 of Title 16 provides the DFG and the Boards of Fish and Game permit jurisdiction over all land use activities within the State of Alaska's "Special Area" system of refuges, critical habitat areas, and sanctuaries. The Statewide Instream Flow Coordinator in the Division of Sport Fish also reviews many dam and channel modification proposals and estimates instream flow impacts.

### **Department of Environmental Conservation**

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The department regulates solid waste, liquid wastes, hazardous materials, and petroleum transportation and spills. -Developers must obtain permits from the department if any of these materials will be used or generated during the construction or operation of dams or channel modifications. DEC is the lead water pollution control agency.

#### **Division of Water**

The division issues Section 401 Water Quality certifications. DEC must certify, waive certification, or deny that an application for a federal license, such as a Federal Energy Regulatory Commission (FERC) license or CWA Section 404 permit that allows discharges into the navigable waters of the state meets Water Quality Standards. DEC has conditioning authority under the Federal Power Act, and may attach stipulations, including erosion and sediment control and stormwater runoff control measures, to the 401 certification to ensure that the project will not violate water quality standards.

#### **Department of Commerce Community and Economic Development**

Borough and city government floodplain management ordinances cover approximately 85% of the State's population that live in a community that regulates floodplain development through National Flood Insurance Program (NFIP) ordinances. -The Department of Commerce, Community and Economic Development (DCCED), Division of Community Advocacy is the State coordinating office for the NFIP and has developed a 5-year *Plan for Floodplain Management in Alaska*. Through improved mapping of hazard areas, and updating and improved implementation of the Governor's Administrative Order 175 for Floodplain and Erosion management, channel modifications and human-caused changes that result in erosion should be reduced. The DCCED Division of Community Advocacy is working with local governments to add "No Adverse Impact" floodplain clauses to ordinances that are updated as flood maps are updated. The majority of communities participating in the NFIP are also coastal districts. DCCED's 5-Year Plan for Floodplain Management objectives that relate are to u:-

Update the State's Flood Insurance Rate Maps (FIRMs) and produce flood and erosion hazard maps for unmapped NFIP participating communities according to the following goals from Alaska's Map Modernization Plan (dated August 2002).

- Alaska's goal is to cut the average age of Alaska's flood maps in half (10.5 years) from 20.8 years ;
- Producing digital flood hazard maps with up-to-date flood hazard data for the 15-percent highest priority areas in the state; and
- Develop flood hazard maps for one-half of the unmapped, flood prone communities in Alaska.
- Develop an integrated floodplain and erosion management program. Currently no clear erosion management policies are coordinated at the federal and State level in Alaska. Goal is to integrate floodplain and erosion management.
- Establishment of a Federal-State Floodplain and Erosion Mitigation Commission to provide a coordinated management approach to the

communities most threatened by flooding and erosion; provide guidance for community relocation; ~~e.~~ Establish an erosion assessment program for the most erosion prone communities/areas of the State; ~~and.~~ ~~i.~~ Integrate, where applicable, with digital flood hazard data layers.

- ~~Meet goal of a.~~ All of Alaska's Borough governments participating in the NFIP with compliant ordinances.

### **C. Key Partnerships**

Key partners for preventing damage from hydromodification activities include the State of Alaska's resource agencies (DEC, DNR, DFG); the Army Corps of Engineers; the Natural Resources Conservation Service; federal land management agencies if the activity is within their land management jurisdiction (Bureau of Land Management, USFS, U.S. Fish & Wildlife Service and the National Park Service); and municipalities, organizations, private landowners and citizens that are concerned about a proposed hydromodification activity or stream bank erosion impacts.

### **D. Goals for Reducing Nonpoint Source Pollution from Hydromodification**

Alaska's nonpoint source pollution goals with respect to hydromodification follow:

- Maintain water quality and quantity in watersheds.
- Maintain healthy populations of plant and animal species by maintaining the aquatic and riparian habitats necessary to sustain them.
- Restore degraded water quality and quantity to meet Water Quality Standards and protect designated uses.
- Restore damaged aquatic populations by restoring their habitats.



<b>Table 5. Hydromodification Action Plan (HY)</b>		
<b>Action Plan Objectives &amp; Tasks</b>	<b>Responsible Agencies &amp; Organizations</b>	<b>Timeframe for Completion of Action</b>
<b>HY-A. Dams:</b>		
HY-A1. Conduct project reviews of hydrologic activities to ensure that an adequate amount of water is reserved in lakes, rivers and streams to support fish populations.	DFG, DEC, DNR	On-going
<b>HY-B. Channel Modifications And Channelization:</b>		
HY-B1. Ensure proposed channel modification and channelization projects are designed and monitored to minimize impacts to streams. Incorporate bioengineering techniques in design of stabilization projects to protect channelized streams.	DFG, DNR, NRCS	On-going
HY-B3. Identify channel segments that have been significantly modified, or have significant erosion or habitat impacts, and work with landowners to conduct stream banks for restoration activity.	DEC, DFG, DNR, Federal agencies	On-going
<b>HY-C. Shoreline and Stream Bank Erosion:</b>		
HY-C1. Continue development of mechanisms to protect and restore habitats, using standardized data collection and management systems that allow for sharing data.	DFG	On-going
HY-C2. Monitor effectiveness of past habitat protection projects and report results in standardized manner. NOTE: Reports should be updated periodically as new information becomes available.	DFG	On-going
HY-C3. Increase public awareness of the characteristics of intact and damaged aquatic habitats, the need to protect and restore aquatic habitats, and techniques to protect and restore aquatic habitats.	DFG, DEC	On-going

Key:

DEC - Department of Environmental Conservation

DFG - Department of Fish and Game

DNR - Department of Natural Resources Office

**Comment [JC45]:** The identification of channel segments that have been significantly modified etc should include a specific date for completion.

**Comment [JC46]:** Possible one to include in table in Appendix B.

**Comment [JC47]:** How will this be accessed or measured? How will it be reported?

## **Mining**

Before the large-scale development of oil resources in the 1970's, gold was historically Alaska's most valuable resource commodity. Significant changes have occurred in the Alaskan mining industry, including a major increase in the exploration for hard-rock gold and base metal deposits with the resultant expansion and development of existing and new lode gold mines.

### **A. Management Measures and Indicators**

The following Management Measures and Indicators will be used to assess the State's success in achieving its Mining goals and objectives.

- Number of assessed waterbodies associated with mining that protect public health and the environment by supporting a) fish and shellfish consumption, b) safe recreation, and c) healthy aquatic life use designations (based on 305(b) report and 303(d) list).
- Number of waterbodies on the Section 303(d) List of Impaired waterbodies that are listed because of nonpoint source pollution stemming from mining activities.

### **B. Regulatory Controls**

#### **Hard Rock**

Nonpoint source pollution from hard-rock and coal mining operations are regulated through APDES permits, BLM 3809 regulations, the Alaska Surface Mining Act, and the State of Alaska Reclamation Act. —These regulations place requirements not only on discharges but on facility operations.

DNR is the lead agency for coordination of a large project permitting, multi-agency team review of proposed large mine projects. Tailings and waste rock can be covered under DEC Solid Waste permits. Both the application of BMPs and the issuance of APDES permits can address waste rock discharges. BLM and DNR regulations require the assessment of acid rock drainage potential of ore and waste to minimize the potential for offsite drainage, and waters originating from waste dumps must meet DEC Water Quality Standards.

APDES permits do not necessarily preclude nonpoint source or stormwater impacts. Adequate closure plans should be implemented to reduce the post-development nonpoint source impacts; BLM Section 3809 regulations and the State of Alaska Reclamation Act regulate these.

General or individual federal or state permits are another option for handling water permitting. The specific types of issues covered by these permits include: sediment that can drain from roads, wheel washing, concentrate on-and off-loading, waste rock storage, quarries, pit lakes, borrow pits producing fine sediment runoff, fuel and hydraulic fluid

**Comment [JC48]:** I noticed you deleted this section from the other sections.

leak potential, and fill areas. There is the potential for acid generation or elevated metals in the runoff from these areas. Monitoring at specific sites for specific parameters of concern is considered in determining the APDES reporting requirements.

### **Placer Mines**

The two significant nonpoint source pollutants related to placer mining is sediment and turbidity. An APDES permit is required if there is any point source wastewater discharged to surface waters. This permit contains effluent limitations, BMPs, and monitoring requirements. The effluent limitations address settleable solids, turbidity, and total arsenic. Seasonal and daily monitoring are required and penalties for a negligent violation are set at maximum of \$25,000 per day for each violation. Most placer operations today use BMPs to achieve zero discharge. These BMPs require:

- Bypassing surface water around the active mine area.
- Constructing berms and other water retention structures so that they prevent the passage of water.
- Storing pollutant materials (e.g., sediment) so that they are not released to streams using 100 percent process water recycling.
- Maintaining dikes and diversion structures to protect them from failure.
- Stabilizing all mine areas to prevent degradation of the receiving waters.

The State of Alaska Reclamation Act of 1991 requires reclamation of mining activities on all state and private lands. All operations on federal lands, and operations on state and private lands that exceed five acres of unreclaimed area, are required to post reclamation bonds to ensure the disturbed area is reclaimed.

Nonpoint source pollution due to runoff and erosion from mined areas, roads and camps can be controlled by enforcement of Bureau of Land Management 3809 regulations, the State of Alaska Reclamation Act and the use of BMPs referenced in the Placer Mining Reference Manual from DFG.

### **Coal**

The federal Surface Mining Control and Reclamation Act was signed into law in 1977 to regulate surface coal mining and reclamation nationwide. The law provided state's the opportunity to develop state coal programs and assume primacy over the coal program from the federal government. Alaska chose to administer the program and the Alaska Surface Coal Mining Control and Reclamation Act was approved in 1983. The Commissioner of the Department of Natural Resources was granted jurisdiction over surface coal mining and reclamation operations in the state.

### **Abandoned Mines**

Historic abandoned mine sites exist in Alaska and can be potential sources of nonpoint source pollution. Reclamation of abandoned mines is handled primarily through DNR's Abandoned Mine Lands (AML) Program. State and federal laws created the AML Program for the purpose of reclaiming abandoned historic mines.

**Comment [JC49]:** ???

**Comment [JC50]:** Is this manual in the DEC BMP website?

Land and water eligible for reclamation ~~were~~<sup>are</sup> those that were mined or affected by mining and abandoned or left in an inadequate reclamation status before August 3, 1977, and for which there is no continuing reclamation responsibility under State or federal law. AML funds ~~could~~<sup>can</sup> be spent on coal and non-coal abandoned historic mines. State, private, native and federal lands were eligible. Sunset for the collection of AML funds was the year 2004, set by federal law.

Every inventoried site was evaluated to determine if it qualified for AML funding. Federal policy require~~d~~<sup>s</sup> that priority one and two coal projects be completed first. Priority three coal projects ~~could~~<sup>can</sup> be completed in conjunction with priority one and two projects or after all priority one and two projects ha~~d~~<sup>ve</sup> been completed. Only priority one non-coal projects ~~could~~<sup>can</sup> be reclaimed. Priority one non-coal sites ~~could~~<sup>can</sup> be worked on simultaneously with coal sites if the Governor has requested them. Because of the subjective nature of the criteria, priority two non-coal sites were identified for further evaluation. The ~~three~~ reclamation priorities ~~were~~<sup>are</sup>:

- Protection of public health, safety, general welfare and property from extreme danger resulting from the adverse effects of past coal mining practices.
- Protection of public health, safety and general welfare from adverse effects of past coal mining practices which do not constitute an extreme danger.
- Restoration of eligible lands and waters and the environment previously degraded by adverse effects of past coal mining practices, including measures for the conservation and development for soil, water (excluding channelization), woodland, fish and wildlife, recreation resources, and agricultural productivity.

**Comment [JC51]:** Is this program still active, even without the AML funding?

### **C. Key Partnerships**

Key partners for preventing nonpoint source pollution from mining activities include the Departments of Environmental Conservation, Fish and Game, and Natural Resources; federal land management agencies if the activity is within their land management jurisdiction (Bureau of Land Management, U.S. Fish & Wildlife Service and the National Park Service); the EPA; tribal entities; and non-governmental organizations that deal with the mining industry. Miners are key participants in accomplishing the site work that would need to be done for long-term reclamation. Other important key partners are Resource Conservation & Development Council and the Alaska Miners Association.

### **D. Goals for Reduction of Nonpoint Source Pollution from Mining**

Alaska's nonpoint source pollution goals with respect to mining follow:

#### **Active Mines**

- Reduce erosion and runoff from disturbed upland areas during the active mining process.
- Focus agency efforts on land management for road building; borrow pits, culverts, and other mine features.
- Expand monitoring programs to assess nonpoint source impacts of mine expansions and impacts to creek drainages.
- Increase awareness of permit requirements.

**Abandoned Mines**

- Protection of public health, safety, general welfare and property from extreme danger resulting from the adverse effects of past coal mining practices.
- Protection of public health, safety and general welfare from adverse effects of past coal mining practices which do not constitute an extreme danger.
- Restoration of eligible lands and waters and the environment previously degraded by adverse effects of past coal mining practices, including measures for the conservation and development for soil, water (excluding channelization), woodland, fish and wildlife, recreation resources, and agricultural productivity.

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<b>Table 6. Mining Action Plan (MI)</b>		
<b>Action Plan Objectives &amp; Tasks</b>	<b>Responsible Agencies &amp; Organizations</b>	<b>Timeframe for Completion of Action</b>
MI-1. Distribute guidelines to help miners, companies, and government land managers reclaim mine sites effectively and economically.	DNR, DEC, F&G, Tribes, NGO	On-going
MI-2. Continue to investigate historic mining operations, conducting sampling where feasible.	DNR, DEC, F&G	On-going
MI-3. Provide technical assistance to miners and landowners in applying and complying with reclamation standards. Monitor effectiveness of BMPs designed to reduce or control sedimentation from placer and gravel extraction activities.	DNR, DEC, F&G	2014
MI-4. Continue evaluation of effectiveness of BMPs, and develop improved BMPs where necessary.	DNR, DEC	On-going
MI-5. Work with Federal resource agencies to cleanup selected abandoned mines. Other mines under a reclamation and closure plan should have those plans closely monitored for effectiveness of reclamation and restoration approaches.	DNR, DEC, F&G, EPA, BLM, NPS	2015

**Comment [JC52]:** See comments on Appendix B for this measure.

**Comment [JC53]:** See comments on Appendix B for this measure.

**Comment [JC54]:** Seems like a good one to include in Appendix B.

Key  
 BLM - Bureau of Land Management  
 DEC - Department of Environmental Conservation  
 DFG - Department of Fish & Game  
 DNR - Department of Natural Resources  
 EPA - U.S. Environmental Protection Agency  
 NGO - nongovernmental organization  
 NPS - National Park Service

## Agriculture

Agriculture in Alaska is not the extensive source of nonpoint source pollution ~~found in~~ most areas of the contiguous United States. Alaska was listed in the ~~2002~~ United States Department of Agriculture (USDA) State Marketing Profiles with total farm marketing of 46 million dollars. This publication also ranked Alaska 50th of the 50 states in order of total farm marketing and ranks greenhouse/nursery, dairy products, hay, and potatoes as the four principal commodities in Alaska by order of marketing.

**Comment [JC55]:** These figures are over 10 years old. Is there any reason to believe anything has changed in the past decade?

Alaska's total number of acres in cropland as of 2002 was 100,000 acres out of a total land area of 366 million acres. According to the United States Department of Agriculture 20,000 acres of harvested cropland existed in 2002. In 2005 there were 620 farms in Alaska with a final agricultural sector output of \$58,471. These figures are from the United States Department of Agriculture Economic Research Service. The major source of agriculture related income is from nurseries and greenhouses in the Anchorage and Fairbanks areas. These figures do not take into account the much larger acreage of identified agricultural land that is currently rangeland, fallow, in Federal Reserve programs, or still forested. Alaska's agricultural production has been relatively stable for a number of years. Sustainable agriculture will potentially be an important part of the future economy of the State.

DEC's current List of Impaired Water Bodies ~~and the state Water Quality Assessment~~ does not identify any water bodies for which the beneficial uses are impaired because of agricultural activities. This ~~is a result of s from~~ a combination of the relatively small size of the agricultural sector and nature of agricultural operations in the state. The DFG states, "Because of the relatively low level of agricultural activity in Alaska, this (*agricultural impacts*) has not been a major focus of the department's attention."

### A. Regulatory Controls

There are limited regulatory controls on agricultural operations in Alaska. Voluntary, best management practices are encouraged. The National Resource Conservation Service has a number of programs, such as the Environmental Quality Incentives Program, to help manage agricultural operations in a sustainable fashion.

### B. Key Partnerships

The Natural Resources Conservation Service (NRCS), Alaska Department of Natural Resources Division of Agriculture, U.S. Department of Agriculture, Alaska Department of Fish And Game, University of Alaska Cooperative Extension, U.S. Environmental Protection Agency, Alaska Association of Conservation Districts and representatives of the general public interested in preventing and controlling water pollution from Agriculture.

### **C. Goals for reduction of Nonpoint Source Pollution from Agriculture**

DEC's nonpoint source pollution goals with respect to agriculture are as follows:

- Continue to monitor the size and nature of the agriculture sector for any indications that the long-term trend of low levels of pollution might be changing.
- Maintain contact with stakeholders who are active in the agricultural sector and support identified efforts to prevent or control those sources of pollution that are identified as being of concern.
- Continue to support the main agricultural agencies in the state, DNR and Natural Resource Conservation Service (NRCS), in their efforts to prevent or reduce surface and groundwater pollution from agricultural activities.
- Monitor trends in the growth of feedlots and dog mushing kennels to assure that these animal-feeding operations do not cause serious, localized pollution problems.
- Support monitoring of the atmospheric deposition of pesticides from outside Alaska in arctic Alaska and in the marine food chain.

**Comment [JC56]:** Are either of these serious concerns that should be included in the table below?



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**Table 7. Agriculture Action Plan (AG)**

Action Plan Objectives & Tasks	Responsible Agencies & Organizations	Timeframe for Action
AG-12. Continue to work with partners provide funding for priority agricultural nonpoint source projects to the extent that they are identified as serious threats to water quality.	DEC, DNR, NRCS, SWCDs	On-going

**Comment [JC57]:** See comments on Appendix B for this measure.

**Key:**

DEC - Alaska Department of Environmental Conservation  
DNR - Alaska Department of Natural Resources  
NRCS - Natural Resources Conservation Service  
SWCDs- Soil and Water Conservation Districts

## **Roads Highways and Bridges**

Most of Alaska is not connected to the highway system. Many communities have limited local road networks that are unconnected to any statewide road network. Residents of these communities depend on a combination of air travel and fresh water or marine vessel transport for supplies and travel outside their communities.

In 2011, Federal and State agencies, municipal governments and local communities reported 16,674 miles of public roads in Alaska. The 2011 Certified Public Road Mileage Report provides detailed summaries at:

<http://www.dot.alaska.gov/stwdplng/transdata/public-road-data.shtml>

The majority of this network is managed by the Alaska Department of Transportation & Public Facilities (5,608), Boroughs (3,672 miles), and tribes (3039 miles).<sup>[1]</sup> In addition, several agencies manage roads in Alaska (e.g. US Forest Service, National Park Service, US Army, US Navy).

### **A. Regulatory Controls**

Many of the highway projects in rural Alaska involve wetlands. A CWA Section 404 permit from the Corps of Engineers is required when wetlands or waterbodies are filled. This permit requires a 401 certification from the State of Alaska. The 401 certifications are issued by DEC and are the state's statement of reasonable assurance that the discharge will meet WQS. To meet the WQS, DEC may attach stipulations, including erosion and stormwater controls, to this certification.

State regulations require that anyone who constructs, alters, installs, modifies, or operates any part of a stormwater treatment or disposal system submit engineering plans for review.

DOTPF complies with these regulatory controls through its use of the Project Development and Maintenance Environmental Review Procedures; DOTPF's Alaska Highway Drainage Manual; DOTPF's Alaska Storm Water Pollution Prevention Plan Guide; DOTPF's BMPs for Construction Erosion and Sediment Control & Maintenance and Operations Activities, and the Federal Highway Administrations State Planning and Research Program.

### **B. Key Partnerships**

Local: borough governments, municipal governments

State: DOTPF

Federal: Corps of Engineers, U.S. Department of Interior, U.S. Forest Service,

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<sup>[1]</sup> Information provided by DOTPF based on their 2011 survey

### **C. Goals for Reduction of Nonpoint Source Pollution from Roads, Highways and Bridges**

- Protect sensitive ecosystems, including wetlands and estuaries, by minimizing road-building mileage in those systems, minimizing the number of water crossings, and establishing protective measures including setbacks during construction.
- Protect areas that provide important water quality benefits or are particularly susceptible to erosion or sediment loss.
- Limit land disturbance such as clearing and grading and cut and fill to reduce erosion and sediment loss.
- Limit disturbance of natural drainage features and vegetation.
- Limit runoff of pollutants through the use and proper maintenance of structural controls.
- Limit generation of pollutants from maintenance operations by minimizing the use of pesticides, of hazardous materials and incorporating measures to prevent spillage in sensitive areas.

#### **Planning, Siting, and Developing Roads and Highways**

Plan, site, and develop roads and highways to:

- Protect areas that provide important water quality benefits or are particularly susceptible to erosion or sediment loss.
- Limit land disturbance such as clearing and grading and cut and fill to reduce erosion and sediment loss.
- Limit disturbance of natural drainage features and vegetation.

#### **Site, design and Maintain Bridges**

- Site, design, and maintain bridge structures so that sensitive and valuable aquatic ecosystems and areas providing important water quality benefits are protected from adverse effects.

#### **Construction Projects**

- Reduce erosion and, to the extent practicable, retain sediment onsite during and after construction.

- Prior to land disturbance, prepare and implement an approved erosion control plan or similar administrative document that contains erosion and sediment control provisions.

#### **Construction Site Chemical Control**

- Limit the application, generation, and migration of toxic substances;
- Ensure the proper storage and disposal of toxic materials; and
- Apply nutrients at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface water.

#### **Operation and Maintenance**

- Incorporate pollution prevention procedures into the operation and maintenance of roads, highways, and bridges to reduce pollutant loadings to surface waters.

#### **Roads, Highway, and Bridge Runoff Systems**

- Identify priority and watershed pollutant reduction opportunities (e.g., improvements to existing urban runoff control structures).

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<b>Table 8. Roads, Highways, and Bridges Action Plan (RHB)</b>		
<b>Action Plan Objectives &amp; Tasks</b>	<b>Responsible Agencies &amp; Organizations</b>	<b>Timeframe for Completion of Action</b>
RHB-1. Work with local communities and agencies to incorporate pollution prevention procedures into road operation and maintenance, and design/ construct structures to minimize environmental impact.	DOT&PF, DEC, Local Governments, Federal agencies	On-going

Key:

DEC - Alaska Department of Environmental Conservation

DOTPF - Alaska Department of Transportation and Public Facilities

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## **Appendices**

Appendix A	Identification of Priority Waters for Protection and Actions
Appendix B	High Priority Waters and Tasks for Reporting in 2014-2018
Appendix C	Information Management
Appendix D	Agencies and Organizations
Appendix E	ACWA Decision Tree & Ranking Process
Appendix F	Local Ordinances on Roads, Highways and Bridges

## Appendix A - Identification of Priority Waters for Protection and Actions

Alaska's goal is to promote identification and protection of healthy waters. The Alaska Clean Water Actions (ACWA) process serves to identify those waters that are high priority to address. Section 3 provides information on the ACWA process; DEC's biennial Integrated Report describes in detail the analysis used to identify which waters are the highest priority and whether the additional information is needed for the water (Data Collection and Monitoring Track), whether the water is healthy and has adequate protection (Adequately Protected Waters) or is at risk (Protect and Maintain at Risk), or whether the water is polluted (Waterbody Recovery). DEC's ACWA web page also provides information on the ACWA process and waterbody priorities.

In 2013, approximately 135 waters were identified as a high priority by one or more of the resource agencies. Of these, almost one-third is in a protection category, while nearly half are in need of data. The majority of waters identified by any of the resource agencies as in need of restoration have a restoration plan in place. The lack of waterbody specific analytical data coupled with a large number of waters in need of protection, results in Alaska's Non-Point Source Program placing a high priority on data collection and implementing statewide programs that are designed to protect a wide range of waters. Therefore, data collection efforts and designing/implementing education programs that can be used statewide is a priority.

In addition, DEC has identified several locations where working with the local community to prevent or reduce impacts from non-point source pollution is a priority. Specifically:

- Clean Harbors program – originally supported as a pilot program by solely DEC, the program has flourished to have two harbors certified and three additional harbors working toward certification. DEC will continue to support this preventative program. The program encourages environmentally sound management practices at harbors & marinas. In five years, DEC strives to have two more harbors certified.
- Fuel Out, Fish On education efforts – DEC will continue to educate Alaska's boating community about clean fueling practices. In five years, DEC will have educated all boat owners on clean boating practices.
- National Fish Habitat Partnership – DEC will continue to work on these multiagency workgroups designed to protect and enhance water quality. DEC will continue to support the development of new partnerships in Alaska.
- Setback ordinances – DEC will continue to support local ordinances that restrict activities in riparian zones.
- Stormwater management – DEC will continue to support local efforts to evaluate storm water management systems and design controls which minimize environmental impact.
- Fairbanks Green Infrastructure working group – this multi-discipline working group seeks to increase the number of green infrastructure applications in Fairbanks. DEC will continue to support by leading this effort. In five years, the Green Infrastructure workgroup will have increased the number of GI projects to xxx.

**Comment [JC58]:** Great job in describing the identification of waters, as well as describing several programs and including commitments. May be helpful to provide factors used in selecting high priority watersheds for protection (see page 17 on FY14 NPS and 319 Grant Guidelines for factors that can be used). Need to include other federal, state, local agency and partner programs (such as wild rivers programs, LID, NRCS, Nature Conservancy, land trusts) and their role in watershed protection or incorporate these agencies and organizations into your list provided in Appendix D and add information on their role with respect to watershed protection (already note roles with respect to NPS).

**Comment [JC59]:** Please include these commitments to the Table in Appendix B.

**Comment [JC60]:** Need to include number.

- Kenai River - Special Management Area Board and Water Quality Monitoring- DEC will continue to provide technical input to the board. DEC will also support in the annual monitoring program which evaluates water quality in order to detect any degradation that may be occurring. Monitoring data will be recorded in STORET.
- Collaboration with the City and Borough of Juneau to conduct review and comment on development projects.



## Appendix B – High Priority Waters and Tasks for Reporting in 2014-2018

List to be updated and included on web July 1

Current web address: [http://dec.alaska.gov/water/acwa/pdfs/High\\_Priority\\_Waters\\_Region\\_2013.pdf](http://dec.alaska.gov/water/acwa/pdfs/High_Priority_Waters_Region_2013.pdf)

Waters to be addressed between 2014-2018 (NEED TO DEVELOP LIST)

### High Priority Waters for 2014-2018 - **DRAFT**

Watershed/ Waterbody Name	Alaska Region	Latitude	Longitude	ACWA Action Track

**Comment [JC61]:** Is this list the one shown in [http://dec.alaska.gov/water/acwa/pdfs/High\\_Priority\\_Waters\\_Region\\_2013.pdf](http://dec.alaska.gov/water/acwa/pdfs/High_Priority_Waters_Region_2013.pdf) ? If it is not, when will we have an opportunity to review this section?

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**High Priority Tasks for 2014-2018 - DRAFT**

Action Plan Objectives & Tasks	Responsible Agencies & Organizations	Timeframe for Completion of Action	Measure/Indicator and Reporting Opportunities
<b>Table 1. Nonpoint Source Pollution Program (NPS) Action Plan</b>			
<b>NPS-A. Statewide Water Quality Planning</b>			
NPS-A1. Continue using ACWA to identify Alaskan waters that are vulnerable to pollution; prioritize water bodies that are polluted and schedule clean-up actions <span style="color: red;">and <del>to</del> waters for protection</span> ; manage and share information on water quality; and describes how Alaska will implement best available technology and management practices to prevent pollution. Use the ACWA database to track and plan actions on all nominated ACWA waters <span style="color: red;">-- particularly</span> those needing <span style="color: red;">protection</span> , restoration or that are at risk. Provide the general public with information about AK's waters.	DEC, DFG, DNR/, Local Govts, Coastal Districts, Tribal orgs, NGOs, Fed Agencies, public	On-going	ACWA database reports listing high priority waters available on DEC's web site. Activity on waters of significant public interest also highlighted. Documentation <span style="color: red;">on status of these waters</span> also provided in NPS annual report.
<b>NPS-B. Assess water quality on a statewide basis and in targeted watersheds to support watershed planning and restoration projects to protect water quality and associated uses, including habitat.</b>			
NPS-B2. For each water identified through the ACWA nomination process, within one year of the nomination collect and review available information to determine if existing stewardship is sufficient or if there are needs for data collection, protection or restoration activities. If further needs exist, use the ACWA ranking process to prioritize the water.	DEC	Ongoing	Revised ACWA high priority waters list incorporates newly <span style="color: red;">nominated waters</span> .
<b>NPS-D. Support Water Quality Information Management Systems and Monitoring Efforts</b>			
NPS-D1. <span style="color: red;">Implement a statewide water quality monitoring strategy to assure that waters reach or maintain their beneficial uses.</span> Provide consistent, long term training for entities monitoring water quality, such as agencies, local governments, businesses and volunteers.	DEC	On-going	PPG report
<b>NPS-E. Strengthen partnerships with government and nongovernmental agencies and organizations to improve coordination and efficiency and reduce duplication of effort.</b>			
NPS-E1. Enhance interagency coordination by including resource agencies, education and research institutions, non-government organizations, and public in <span style="color: red;">setting priorities and allocating funding</span> .	DEC	On-going	NPS Annual Report

**Comment [JC62]:** What does "high priority" mean with respect to reporting? Will you be reporting on all tasks in the NPS annual report and include these tasks in the PPG?

**Comment [JC63]:** Need to include watershed protection/healthy waters either in this table or in Appendix A. For example Kentucky's three strategies included: 1) Purchase lands in the Wild Rivers corridors and provide technical assistance regarding conservation easements; 2) Support projects in special use waters; 3) Identify healthy watersheds and pilot a healthy watershed program.

**Comment [JC64]:** Is it possible for EPA to see which waters have been nominated that year?

**Comment [JC65]:** I understand the monitoring strategy needs to be updated. Will the strategy be updated by September 30 or should that be included in this table.

**Comment [JC66]:** How would this work? How do you plan to involve these agencies, NGOs and public in priority setting and funding allocation. Are you expanding the ACWA process to include input from outside the three main agencies?

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<b>Urban and Community Development Action Plan (UR)</b>			
<b>UR-A. Support local watershed protection efforts and encourage communities and the public to protect their local water resources.</b>			
UR-A1. Support local entities in their actions to develop and implement controls for non-point source pollution resulting from both stormwater and on-site systems. Actions may include, but not be limited to: ordinance development, construction of engineering controls, enforcement of existing controls, and construction of low impact development (LID) facilities, and regulation of on-site sewage.	DEC, Local Govts, NGO, Mortgage lending institutions	On-going	NPS Annual Report
<b>UR-B. Provide educational, technical and financial assistance to communities to ensure good drinking water and basic sanitation and sewage disposal needs are met</b>			
UR-B1. For communities over 5,000 people, work to ensure that practices and/or ordinances exist that maintain predevelopment site hydrology and limit unnecessary increases of impervious areas that create significant changes in the hydrology. In instances where impervious surface is necessary, maintain post development average volume and peak run off rates similar to predevelopment levels.	DEC, Local Govts	On-going	NPS Annual Report
<b>UR-C. Provide tools to incorporate effective water quality protection in land use planning and improved permitting and plan review decisions.</b>			
UR-C1. Provide training materials and list of best management practices (BMPs) to cities, private sector developers and engineers doing construction activities.	DEC	Ongoing	DEC web site Best Management Practices <a href="http://www.dec.state.ak.us/water/wnpspc/protection_repository/BestMgmtPractices/">http://www.dec.state.ak.us/water/wnpspc/protection_repository/BestMgmtPractices/</a>
<b>UR-D. Promote educational opportunities to control and abate nonpoint source pollution. Tasks include:</b>			
UR-D2. Develop and implement at least one local e-programs that provides education on proper disposal of pet waste to avoid impacts to surface waters. Incorporate information into statewide efforts.	DEC	2016	NPS Annual Report
<b>Forest Practices (FP) Action Plan</b>			
<b>FP-A. Action Plan Tasks for Forestry Activities on Private, State and other Public Lands.</b>			
FP-A2. Conduct ongoing, periodic field inspections and compile compliance score sheets for timber harvest operations on state, private and municipal lands to assess compliance with the FRPA	DNR, DFG, DEC	Ongoing	NPS Annual Report
<b>Harbors and Marinas Action Plan (HM)</b>			
HM-4. Continue to participate in the Clean Harbors program. The Clean Harbor program is a voluntary program to reduce pollution from harbor and boating activity.	NGO, Harbormasters	On-going	NPS Annual Report; Number of Clean Harbors

**Comment [JC67]:** Can you commit to a certain number of BMP documents or materials or classes or web-based courses during this 5 year time frame?

**Comment [JC68]:** Are you including just DEC documents on the website or documents from other agencies? Will you be reporting any new NPS BMP documents developed by DEC and other Alaska state agencies as part of the NPS Annual Report? Are there any such documents under development or being considered for development?

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Action Plan Objectives & Tasks	Responsible Agencies & Organizations	Timeframe for Completion of Action	Measure/Indicator and Reporting Opportunities	
HM-5. For harbors and marinas where fish waste is an issue, work to improve fish waste disposal at one (1) harbor	DOTPF, DEC Local Govts	2013	Certified NPS Annual Report	<b>Comment [JC69]:</b> Need to change date.
<b>Hydromodification Action Plan (HY)</b>				
<b>HY-B. Channel Modifications And Channelization:</b>				
HY-B3. Identify, channel segments that have been significantly modified, or have significant erosion or habitat impacts, and work with landowners to conduct stream banks for restoration activity.	DEC, DFG, DNR, Federal agencies	On-going	NPS Annual Report. Report on channel segments that have been significantly modified, or have significant erosion or habitat impacts	<b>Comment [JC70]:</b> The identification of channel segments that have been significantly modified etc should include a specific date for completion.
<b>HY-C. Shoreline and Stream Bank Erosion:</b>				
HY-C3. Increase public awareness of the characteristics of intact and damaged aquatic habitats, the need to protect and restore aquatic habitats, and techniques to protect and restore aquatic habitats	DFG, DEC	On-going		<b>Comment [JC71]:</b> How will this be accessed or measured? How will it be reported?
<b>Mining Action Plan (MI)</b>				
MI-1. Distribute guidelines to help miners, companies, and government land managers reclaim mine sites effectively and economically.	DNR, DEC, F&G, Tribes, NGO	On-going	NPS Annual Report	<b>Comment [JC72]:</b> Are these guidelines on DEC's website?
MI-2. Continue to investigate historic mining operations, conducting sampling where feasible.	DNR, DEC, F&G,	On-going	NPS Annual Report	
MI-3. Provide technical assistance to miners and landowners in applying and complying with reclamation standards. Monitor effectiveness of BMPs designed to reduce or control sedimentation from placer and gravel extraction activities.	DNR, DEC, F&G,	2014	NPS Annual Report Posted on DEC web site	<b>Comment [JC73]:</b> What are you posting exactly? Results of BMP effectiveness monitoring?
MI-4. Continue evaluation of effectiveness of BMPs, and develop improved BMPs where necessary.	DNR, DEC,	On-going	NPS Annual Report Posted on DEC web site	<b>Comment [JC74]:</b> What are you posting exactly? Results of BMP effectiveness monitoring?
<b>Agriculture Action Plan (AG)</b>				
AG-2. Continue to work with partners provide funding for priority agricultural nonpoint source projects to the extent that they are identified as serious threats to water quality.	DEC, DNR, NRCS, SWCDs	On-going	NRCS reporting conducted for progress on Cottonwood Creek & Anchorage Bowl	<b>Comment [JC75]:</b> What else besides finding funding will Alaska do? Will you also be providing technical assistance? Preparation and/or review of the QAPPs? Assisting in the design of the restoration?
<b>Roads, Highways, and Bridges Action Plan (RHB)</b>				

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<b>Action Plan Objectives &amp; Tasks</b>	<b>Responsible Agencies &amp; Organizations</b>	<b>Timeframe for Completion of Action</b>	<b>Measure/Indicator and Reporting Opportunities</b>
RHB-1. Work with local communities and agencies to incorporate pollution prevention procedures into road operation and maintenance, and design/ construct structures to minimize environmental impact.	DOT&PF, DEC, Local Governments, Federal agencies	On-going	<a href="#"><u>NPS Report.</u></a> <a href="#"><u>Number of Agencies and communities which incorporated pollution prevention procedures</u></a>

## Appendix C - Information Management System

Comment [JC76]: Include GRTS too.

DEC is committed to develop, build and maintain an information management infrastructure that:

- Provides for efficient storage and retrieval of water quality assessment information of Alaskan waters;
- Improves water quality management decision making and water quality data analysis; Improves the quality and consistency of water quality reporting; and
- Reduces the burden of federal Clean Water Act reporting requirements.

Water quality monitoring in Alaska relies upon diverse sources of information and data generated both within DEC and outside the agency. DEC staff network with non-profit and governmental agencies across local, state and federal boundaries, as well as Native entities, volunteer and non-profit organizations. Sources of water quality data and information in Alaska are extensive. The problem is identifying its location, organizing its availability and making it readily accessible, both to the general public, as well as statewide professional resource agency staff in an effort to target limited resources towards the state's highest water resource priorities. The ACWA, Ambient Water Quality Management System (AWQMS), and the Assessment Database (ADB) together include considerable water quality data to coordinate. AWQMS transmits water quality data to EPA STORET (i.e. STORage and RETrival data warehouse). A standardized hydrography layer will enhance accuracy and data sharing and DEC supports the National Hydrography Dataset (NHD) improvements needed in Alaska.

The Alaska Clean Water Actions (ACWA) program and the supporting applications were conceived and designed to:

- Support the activities of grant managers responsible for obtaining funding to implement protection or recovery actions for assessed waters by making ranking information available through queries and reports;
- Provide resource agency staff the tools to support an existing, formalized process for targeting limited resources towards the State's highest water resource priorities. The process involves the ranking of waters in Alaska according to their assessed needs for data collection, protection, or recovery actions;
- Streamline the process for identifying waters for consideration under ACWA; and
- Provide the ability to query information about waterbodies and rankings to the public over the internet.

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Additional DEC management tools used to locate waterbodies statewide rely upon the availability of the National Hydrography Dataset (NHD) and various geographic information system technologies. And an Alaskan data exchange node is under development to expedite the movement of water quality data into STORET from around the state.

## **ACWA Application**

The ACWA application consists of a database and a collection of web-based user interfaces physically hosted at DEC within the State of Alaska network. The system will provide direct links to Legacy STORET and modernized STORET. The ADB database is directly interfaced with ACWA and waterbodies in ADB and ACWA are synchronized as an on-going routine operation. The general public and organizations outside the State network will access the ACWA application through a public user interface that will be available over the Internet.

**Comment [JC77]:** When do you anticipate that the public will be able to access the ACWA application?

Resource agency staff and managers have access to additional interfaces over the Intranet. Information is compiled and shared to analyze and rank individual waterbodies. Processes for evaluating the credibility and sufficiency of information, stewardship effectiveness and assignment of appropriate actions are incorporated, along with a criteria-based ranking system applied across the three State resource agencies responsible for water resource management in Alaska. The system will eventually include a GIS component to support a web-based map browser for Internet users to identify nominations status of waterbodies and query information.

**Comment [JC78]:** When do you anticipate that the GIS component will become available?

## **EPA STORET AND DEC AWQMS**

STORET is a national U.S. EPA water quality data management system that has been in use since the 1960s and modernized in 1999. STORET is a repository for water quality, biological, and physical data. DEC has implemented a locally hosted water quality data system called AWQMS that assists in transmitting information to STORET. Legacy STORET provides access to pre-1999 water quality data for Alaska. ACWA ranking and monitoring staff may query water quality information from AWQMS and STORET to determine if sufficient and credible data exists for ranking and monitoring under ACWA.

The ADB, a federal database developed by the EPA, supports the tracking of water quality assessment data, including causes and sources of impairment and use attainment. ADB automates the production of reports that the DEC submits to the EPA using the process defined by section 305(b) of the Clean Water Act. All waterbodies tracked through ACWA are synchronized with ADB to assure that waterbodies represented in ACWA are also represented in ADB. Synchronization also assures that the ACWA waterbody segments are reflected in the ADB and include the appropriate assessment units.

## **ADB and Section 305(b) and Section 303(d) Tracking/Reporting**

The Assessment Database (version 2.0) is a relational database application for tracking water quality assessment results and generating reports, particularly useful for Clean Water Act Section 305(b) and 303(d) reporting and listing functions. DEC uses this database for individual waterbodies for which there is assessment information, and reports the status of water quality for these waters and the status of water quality in Alaska on a statewide basis. Assessments that show impairments (e.g., non-supporting uses or persistent exceedances of Water Quality Standards, Section 303(d) listed waters), or assessments that

report waters are maintaining and attaining Water Quality Standards, are entered into the database. In addition, the causes (pollutants) and sources of pollution may also be entered into the database. Alaska regularly tracks and reports to EPA on this information, and on many other types of assessment data, for hundreds or thousands of waterbodies within this database. It allows for custom queries enabling the review of data in a variety of ways. The ADB is designed to make this process accurate and straightforward, yet flexible and user-friendly. It also allows Alaska to meet its water quality reporting requirements to EPA under the Clean Water Act.

#### **Reach Indexing Tool**

The ADB Reach Indexing Tool ~~will~~ defines the geographic regions associated with the waterbodies that are tracked in the ACWA system. The application ~~will~~ provides tools to define geographical regions or segments relative to the NHD (see below) and corresponds to locational segments for ACWA waterbodies. The tool creates appropriate database records with locational information in the ADB database and will share it with the ACWA application.

**Comment [JC79]:** Am I correct that this tool is available.

**Comment [JC80]:** I don't understand this phase—specifically the word "share" confuses me.

#### **NHD**

The NHD is a collection of digital line data representing waters throughout the United States. The Alaska Watershed and Stream Hydrography Enhanced Datasets (AWSHED) project is analyzing and incorporating the data representing Alaska waters into the NHD. Work is on-going although the level of detail available for Alaska lags the rest of the country.



## **Appendix D - Agencies and Organizations**

### **Department of Environmental Conservation (DEC)**

DEC is the lead environmental agency in the state, and has several divisions and programs that deal with managing, protecting, and restoring water quality. A full description of DEC programs can be found on the Internet website at <http://www.state.ak.us/dec/>. Specific programs relating to water quality are described below.

#### ***Division of Water***

Program Goals: The Division of Water's mission is to improve and protect water quality. In keeping with this mission the division:

- Improve water quality conditions where they are below public health or environmental standards.
- Issue wastewater discharge permits to facilities and operations that release potentially harmful pollutants.
- Ensure facility compliance with permit conditions.
- Provide community assistance with the protection of water quality.
- Develop user friendly public access to water quality data.
- Provide grants, loans and engineering assistance for drinking water, sewerage, and solid waste facilities.
- Provide training programs for and certification of water and sewerage system operators.
- Provide over-the-shoulder and emergency assistance to system operators in remote communities.
- Establishes standards for water cleanliness.
- Regulates discharges to waters and wetlands.
- Regulates discharges from Cruise Ships.
- Monitors and reports on water quality.

Programs within the Division of Water include:

#### ***Water Quality Standards, Assessment and Restoration Program***

Program Goals: To provide information and technical assistance for Water Quality Standards, water quality monitoring non-point source pollution and data collection in support of environmental and resource management decisions, makers' research of water quality issues.

#### ***Primary Services (in addition to non-point source activities):***

Develop Water Quality Standards that serve as the basis for protecting and improving the quality of the State's waters.

Provide technical assistance and quality assurance oversight in developing monitoring plans for water quality monitoring.

Report on the status and trends of Alaska's marine and freshwaters.

#### ***Nonpoint Source Water Protection and Restoration Section***

Program Goals: To protect water resources and public health from nonpoint sources of pollution

Primary Services:

Preventing pollution of water bodies from non-regulated sources.  
Reviewing timber harvest plans and performing related field inspections for forestry operations.  
Identifying State water quality priorities and needs.  
Establishing a schedule for developing recovery plans on impaired water bodies.  
Providing pass-through funding and technical assistance to municipalities, local groups and other state agencies involved in water quality projects.  
Responding to public concerns and complaints on local water quality issues.

***Alaska Monitoring and Assessment Program***

Program goal: To serve as a framework for Alaska resource agency decisions required for assessing and monitoring Alaska's water resources; to support protection and restoration decisions; and serve as a roadmap for improving state, federal, local, tribal and public capabilities and performance over time for monitoring the status and trends of Alaska's water resources.

Primary Services:

Monitoring Program Strategy  
Monitoring Objectives  
Monitoring Design  
Core and Supplemental Water Quality Indicators  
Data Analysis/Assessment  
Reporting

***Water Quality Standards***

Program Goal: Protect the waters of the state from toxic levels of pollutants.

Primary Services:

Develop credible and scientifically defensible Water Quality Standards that incorporate state-specific standards.  
Assist the public in using regulations by providing Water Quality Standards guidance and technical assistance to user groups.  
Provide tools to explain and interpret the regulations, such as fact sheets, technical papers, workbooks, and training opportunities.  
Adopt site-specific water quality criteria when federal criteria are stricter than necessary or not strict enough to protect water uses.

***Technical Services Program***

Program Goal: Provide technical and regulatory support for other programs in the Division of Water

Primary Services

Quality Assurance  
Data Management  
Regulation review and revision  
General Support and Infrastructure Analysis

### ***Wastewater Discharge Authorization Program***

Program Goal: To protect water resources and public health by regulating wastewater discharges in lieu of EPA.

Primary Services:

Issue permits and monitor compliance with permits for wastewater discharges.  
Inspect permitted facilities to verify compliance and help operators comply with their permits.  
Evaluate on-site systems to ensure proper operational design.

### ***Village Safe Water***

Program Goal: Provide grants and engineering assistance to small communities for water, sewer.

Primary Services:

Provide grants to small communities for water and sewer studies and projects.  
Assign an engineer to each project to assist communities with planning facility design options, address regulatory options, and help manage construction projects.  
Ensure appropriate and effective use of grant funds.

### ***Municipal Water, Sewerage, and Solid Waste Grant Program***

Program Goal: Provide partial grants and engineering assistance to larger communities for water, sewer, and solid waste projects.

Primary Services:

Providing grants for facility planning and construction.  
Assigning a project engineer to assist with plans, designs, construction and regulations.

### ***Municipal Loan Program***

Program Goal: Provide loans and engineering assistance to communities for drinking water and wastewater projects.

Primary Services:

Providing low-interest loans up to 20 years in duration for projects or eligible portions of projects.  
Providing refinancing of eligible projects.  
Assigning a project engineer to assist with plans, designs, construction and regulations.  
Assuring timely reimbursement for construction expenditures.  
Ensuring appropriate and effective use of loan funds.

### ***Division of Environmental Health***

The Division of Environmental Health (EH) deals with the basics: safe drinking water, food, and sanitary practices. Our goal is to provide businesses with clear standards so they can protect our environment and provide safe food and drinking water to Alaskans. The Division of Environmental Health includes a Drinking Water Program, Food Safety and Sanitation Program, Solid Waste & Pesticide Program, Laboratory and State Veterinarian. The Non-Point Source program collaborates with many of these groups, in particular the Source Water Protection Section within the Drinking Water Program.

### ***Division of Spill Prevention and Response***

The Division of Spill Prevention and Response (SPAR) prevents spills of oil and hazardous substances, prepares for when a spill occurs and responds rapidly to protect human health and the environment. The Division includes Prevention, Preparedness and Response Programs.

**Comment [JC81]:** Why is this section highlighted?

### ***Division of Air***

The Division of Air are designed around three programs: managing non-point and mobile sources of air pollution; managing stationary out-of-stack discharges of air pollution through a permit and compliance program; and field air monitoring to measure progress and understand problems.

### **Department of Natural Resources (DNR)**

DNR is the lead land management agency for the state whose mission is to develop, conserve, and enhance natural resources for present and future Alaskans. DNR's goal is to contribute to Alaska's economic health and quality of life by protecting and maintaining the state's resources, and encouraging wise development of these resources by making them available for public use. The Department of Natural Resources manages all state-owned land, water and natural resources, except for fish and game, on behalf of the people of Alaska. A full description of DNR programs can be found on the Internet website at <http://www.dnr.state.ak.us/>. Specific programs relating to water quality are found in the Division of Forestry, Division of State Parks and the Division of Mining, Land and Water (including water rights, state plan review, permitting and hydrologic survey).

### **Department of Fish and Game (DFG)**

The Alaska Department of Fish and Game's mission is to manage, protect, maintain, and improve the fish, game and aquatic plant resources of Alaska. The primary goals are to ensure that Alaska's renewable fish and wildlife resources and their habitats are conserved and managed on the sustained yield principle, and the use and development of these resources are in the best interest of the economy and well-being of the people of the state. A full description of DFG programs can be found on the Internet website at <http://www.adfg.alaska.gov>. Specific programs relating to water quality include the Division of Sport Fish, Division of Commercial Fish and Division of Habitat.

### **Department of Transportation and Public Facilities (DOTPF)**

The mission of the Department is to improve the quality of life for Alaskans by cost effectively providing, operating, and maintaining safe, environmentally sound and reliable transportation systems and public facilities. Special emphasis will be given to using meaningful public involvement and creating working partnerships with other entities. A full description of DOTPF programs can be found on the Internet website at <http://www.dot.state.ak.us/>. Specific programs relating to water quality include Statewide Design and Engineering Services.

### **Local Governments and Organizations**

Local governments play a vital role in protecting water quality, especially nonpoint source pollution, which is more readily controlled by local land use laws. Four types cover local governing units in Alaska:

Alaska municipal governments, coastal districts, soil and water conservation districts, and tribal governments exist.

#### ***Alaska Municipal Government***

Alaska municipal governments are legal entities incorporated under Alaska law to perform both regulatory—i.e. police, zoning, etc., and proprietary—i.e. water, sewer, airport, etc. functions.

- 16 Organized Boroughs and Unified Home Rule Municipalities (perform area wide education, planning/platting/zoning, and tax assessment and collection powers)
- 145 Incorporated Cities (general government powers, public facilities and services, and regulatory powers)

#### ***Alaska Soil & Water Conservation Program***

Alaska Soil and Water Conservation Districts are a grassroots partnership of local owners, state and federal agencies that work to manage, conserve and develop resources. Districts include:

- Local Soil and Water Conservation Districts (locally designated districts)
- Alaska Conservation District (covers all areas not in a local district)

#### ***Tribal/Native Organizations***

Native organizations are community-based with close ties to local economies. They have the ability to deliver locally and culturally relevant programs. Significant organizations include:

- Metlakatla Indian Reservation
- Indian Reservation Act (IRA) Tribal Councils
- ANILCA Native Corporations

#### ***Non-government Organizations***

Non-governmental organizations fill gaps in and complement government agency roles. These groups often represent stakeholders in a watershed process or water quality issue, and are therefore vital for assuring that all of the needs and concerns of a watershed community are addressed.

Public and private nonprofit groups with water quality as a mission take a variety of shapes. Statewide environmental groups, such as Trustees for Alaska or Alaska Conservation Alliance often take on larger, statewide water quality issues. Other groups, such as Cook Inlet Keeper, Southeast Alaska Conservation Council, Northern Alaska Environmental Center, or the Prince William Sound Regional Citizens Advisory Council, take a regional interest in water quality issues most affecting their area. Local groups, such as the Anchorage Waterways Council, Juneau Watershed Partnership, or Tanana Valley Watershed, often spring up as a result of a need or concern in a community that is not being met.

Industry Associations can be found for every major industry in Alaska. Similar to other nonprofit groups, these can be industry-wide in scope, such as the Resource Development Council and Producers Council, or specific to one type of industry, such as the Alaska Oil & Gas Association, Pacific Seafood Processors Association, Alaska Forest Association, Alaska Miner's Association, or Alaska Council on Tourism. While these groups typically advocate for their constituents, they have been known to play significant roles in addressing key water quality issues affecting their industry.

### ***Watershed Partnerships***

Watershed partnerships provide a framework that enable citizens and agencies to work together to formulate strategies for protecting watershed resources that address community concerns and that are tailored to the social and cultural context of their area. Agencies recognize that such an approach is necessary in order to achieve the grassroots support and community involvement that are key to successful resource management. Agencies can also better carry out their own regulatory mandates by using the watershed approach and working through watershed partnerships. Several agencies have both separate and overlapping responsibilities under the federal Clean Water Act. For example, coordinating DEC's water quality efforts with the DFG's fish and shellfish habitat protection programs can lead to shared information, integrated plans, and time and cost savings for both agencies.

### **Federal Agencies**

Federal agencies play a variety of roles in protecting water quality, from implementation of the Clean Water Act, to federal oversight of fisheries, wildlife, wetlands, federal lands and forests, coastal zone management, and offshore leasing. Key agencies in Alaska include:

**U.S. Environmental Protection Agency** (federal manager for air, land, and water quality)

**U.S. Fish and Wildlife Service** (conserve, protect and enhance fish and wildlife, federal land managers on National Wildlife Refuges)

**Army Corps of Engineers** (develops and protects water resources and wetlands)

**NOAA/National Marine Fisheries Service** (fed manager of fisheries and marine habitats)

**NOAA/Office of Oceans & Coastal Resource Management** (federal coastal zone management)

**U.S. Forest Service** (federal land managers on national forests)

**Bureau of Land Management** (federal land managers, oversight on Trans Alaska Pipeline)

**Bureau of Ocean Energy Management, Regulation and Enforcement** (federal manager of offshore oil and gas leasing)

**Natural Resource Conservation Service** (federal land conservation managers)

**U.S. Geologic Survey** (scientific research including water quality and hydrologic information to manage the nation's waters)

**National Park Service** (federal managers on preserve and park lands)

**Federal Emergency Management Agency** (coordinates and funds cleanup and restoration of impacts from disasters)

## Appendix E- ACWA Decision Tree & Ranking Process

### Introduction & Overview

The Alaska's Clean Water Actions (ACWA) decision tree outlines a process to:

- Determine if waterbodies are adequately protected;
- Identify and prioritize waterbodies-at-risk for additional protection action; and
- Identify and prioritize waterbodies needing recovery for restoration or remediation action.

In the **Nomination Phase** individual waterbodies nominated by the public and agencies are reviewed and entered into the ACWA database (or returned to the nominator for additional information).

In the **Analysis Phase** each waterbody is analyzed to determine:

- Whether existing stewardship programs are adequate to maintain and protect the waterbody; and
- Whether available data is sufficient to determine the existence or extent of a current or potential problem.

The **Analysis Phase** directs waterbodies to three possible actions or outputs:

- Waterbodies that are adequately protected;
- Waterbodies requiring additional data; or
- Waterbodies that require additional protection or recovery.

Waterbodies-at-risk and waterbodies needing recovery, are addressed in the **Action Phase** by:

- Prioritizing individual waterbodies for action;
- Identifying and implementing protection or recovery actions; and
- Evaluating the success of protection/recovery actions and directing the waterbody for additional information, continued monitoring or additional protection/recovery actions.

During all phases, additional data needs may be identified, sending the waterbody to the data collection track.

### ACWA Decision Tree

The ACWA decision tree diagrams the flow of information, pathways and critical decision points for the application of key criteria associated with a decision. The diagram is read left-to-right. Common objects are color-coded to simplify and help organize understanding.

The ACWA Decision Tree diagrams the flow of information, pathways and critical decision points for the application of key criteria associated with a decision. The diagram is read left-to-right. Common objects are color-coded to simplify and help organize understanding.

Each object in the ACWA Decision Tree diagram is identified with an alpha-numeric character(s) near the upper part of the object. The alpha-numeric identifier is keyed to additional narrative description that

further characterizes the objects purpose or function. In this document, references to a Decision Tree object will be alpha-numerically referenced in parentheses ( ) following the descriptive reference.

The ACWA Decision Tree is segmented top-to-bottom, using alphabetical-only designators, into three primary tracks:

- Data Collection & Monitoring Track (D.)
- Assessment Track (F.)
- Stewardship Implementation Track (E.)

The Assessment Track (F.) is further segmented horizontally, left-to-right, into three different phases, as:

- Nomination Phase (A.)
- Analysis Phase (B.)
- Action Phase (C.)

The ACWA Decision Tree process starts in the Assessment Track (F.) and Nomination Phase (A.) with the Waterbody Nomination (1). End results yield three sets of ranked waterbodies and one set of unranked waterbodies, each requiring a unique set of stewardship action(s). The ranked waterbodies are categorized as:

- Data Collection & Monitoring (5A)
- Waterbodies At Risk (8A)
- Waterbody Recovery (9A)

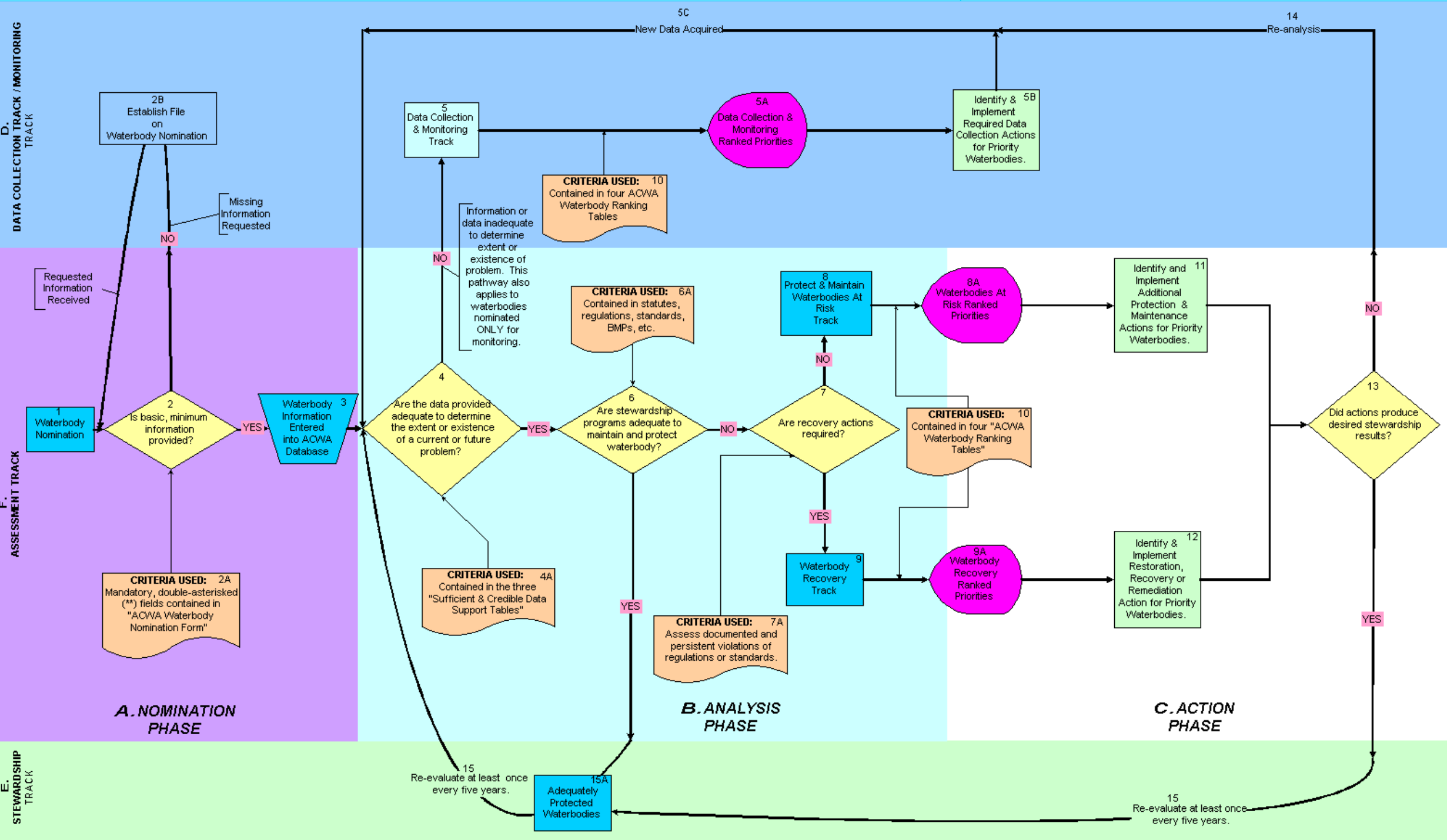
A fourth set of unranked waterbodies residing in the Stewardship Track also results, categorized as:

- Adequately Protected Waterbodies (15A)



Thursday, January 23, 2003

# Alaska's Clean Water Actions (ACWA) Decision Tree



## Appendix F- Local Ordinances on Urban Nonpoint Source Pollution

### Local Ordinances Relating to Urban Nonpoint Source Pollution

The local ordinances in that address urban nonpoint source pollution may be accessed through the table, below. Each ordinance is identified by municipality, ordinance title and reference number. Many Alaskan municipalities have [codes of ordinances](#) which are available online. Whenever possible, a direct link is provided to the local ordinance online. Otherwise, the ordinance text is available in PDF (Adobe Acrobat) format.

	Management Measures/Pollution Controls Topic
<a href="#">View Ordinances</a>	Manage runoff from new development so that post-development TSS loadings after construction are reduced and post-development peak run-off rate and average volume are close to pre-development levels.
<a href="#">View Ordinances</a>	Protect watersheds, minimize land disturbance, retain natural drainage features and vegetation, and protect sensitive areas.
<a href="#">View Ordinances</a>	Do comprehensive planning on a watershed basis.
<a href="#">View Ordinances</a>	Sediment and erosion from construction sites less than 5 acres.
<a href="#">View Ordinances</a>	Application, generation and mitigation of petrochemicals, pesticides, nutrients, and toxins from construction sites less than 5 acres.
<a href="#">View Ordinances</a>	Reduction of pollution from existing development.
<a href="#">View Ordinances</a>	Disposal or recycling of household hazardous wastes and pet wastes; use of fertilizers and pesticides on lawns and gardens; pollution from gas stations and parking lots.
<a href="#">View Ordinances</a>	Planning and siting roads and highways away from sensitive areas or areas that are susceptible to erosion; limiting land and vegetation disturbing activities during road construction.
<a href="#">View Ordinances</a>	Siting, design and maintenance of roads, highways, and bridges.
<a href="#">View Ordinances</a>	Controlling erosion and sediment during and after road, highway and bridge construction.
<a href="#">View Ordinances</a>	Controlling toxic spills and hazardous waste at equipment and fuel storage sites at road, highway and bridge construction sites.
<a href="#">View Ordinances</a>	Controlling pollutants caused by the operation and maintenance of roads, highways, and bridges.
<a href="#">View Ordinances</a>	Retrofitting roads, highways, and bridges to collect nonpoint source pollutants.